
Rancho San Miguel General Development Plan

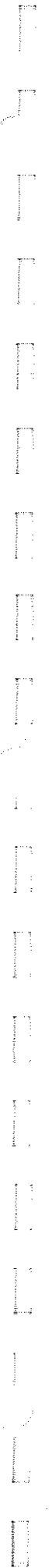
Vol. 2: Technical Appendices for Final
Environmental Impact Report EIR-90-02

State Clearinghouse No. 90010155

Prepared for:
City of Chula Vista

September 1992





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Prepared for:

City of Chula Vista

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Chula Vista, California 92010

Prepared by:

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September 1992

APPENDIX A
NOTICE OF PREPARATION AND RESPONSES



DEPARTMENT OF FISH AND GAME

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March 15, 1990

MAR 19 1990

Ms. Christine Keller
Planning Department
City of Chula Vista
964 Fifth Avenue
Chula Vista CA 92101

Dear Ms. Keller:

We have reviewed the Notice of Preparation of a Draft EIR for the Rancho San Miguel project (SCH 90010155). We recommend that the following issues be addressed in the document:

1) A complete assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive and critical habitats; 2) discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts; 3) discussion of potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on Sweetwater and Otay Rivers and Otay lakes drainage system, with mitigation measures proposed to alleviate such impacts; and 4) provision of buffer areas and maintenance of streambeds in their natural condition through non-structural flood control methods to increase their usefulness as effective wildlife corridors.

The project sponsor must identify specific streambed alterations and flood control structures proposed in order for the Department to properly comment on this document. The applicant should be aware that if mitigation measures are not provided in this document, the Department may require such mitigation measures through jurisdiction established under Fish and Game Code Sections 1601-1603. Diversion, obstruction of the natural flow or changes in the bed, channel, or bank of any river, stream, or lake will require notification to the Department of Fish and Game as called for in the Fish and Game Code. Notification should be made after the project is approved by the lead agency.

There should be discussion of alternatives to the project which would not only minimize adverse impacts to wildlife but which would also be more beneficial for wildlife and wildlife habitat. Those discussions should consider the Department's policy that there should be no net loss of wetland acreage or habitat values. We oppose projects which do not provide adequate mitigation for such losses.

APPENDIX B

**BIOLOGY REPORT
PACIFIC SOUTHWEST BIOLOGICAL SERVICES, INC.**

**REPORT OF A BIOLOGICAL ASSESSMENT
OF THE RANCHO SAN MIGUEL PROPERTY
SAN DIEGO COUNTY, CALIFORNIA**

Prepared for

San Miguel Partners
4350 La Jolla Village Drive Suite 930
San Diego CA 92122-1243

Prepared by

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30 July 1991

This Biological Survey Report was prepared by Pacific Southwest Biological Services, Inc. and to the best of our knowledge and belief, the information contained in this document is accurate and current.

A handwritten signature in dark ink, appearing to read "R. Mitchel Beauchamp", is written over a horizontal line.

R. Mitchel Beauchamp
San Diego County Certified Biologist

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INTRODUCTION

A biological survey of the 2600-acre Rancho San Miguel site was performed by Pacific Southwest Biological Services, Inc. at the request of San Miguel Partners, San Diego. The purpose of the survey was to identify sensitive biological resources and constraints in the preliminary phases of development design.

METHODS

The botanical portion of the survey was conducted by R. Mitchel Beauchamp on various occasions from 1974 to 1986 and in May and July 1989. Craig H. Reiser investigated the site specifically for rare plants on 15 and 16 November 1988. The on-foot surveys covered all slope aspects, soil types, and drainages. Particular attention was given to known sensitive plant habitats. Vegetation and sensitive plant locations were delineated on a 1" = 400' topographic map.

The zoological portion of the survey was conducted by Eric R. Lichtwardt, Keith W. Merkel, Daniel J. Grout, David A. Mayer, James P. Bahr, and John E. Harris. Much of the zoological survey work focused on determining the distribution, abundance, and behavior of the California Gnatcatcher, as well as major wildlife use areas and corridors on-site and in adjacent areas. Field work was performed on the days listed below. A total of approximately 602 field hours were spent on the site between 15 November 1988 and 18 July 1991.

15 November 1989	0800 - 1700 hours	Clear, sunny and cool (Eric R. Lichtwardt)
16 November 1989	0800 - 1700 hours	Clear, sunny and cool (Eric R. Lichtwardt)
15 March 1989	0900 - 1700 hours	Sunny, warm (Daniel J. Grout, Eric R. Lichtwardt, Keith W. Merkel, Virginia Johnson)
21 March 1989	0830 - 1630 hours	Sunny, warm (Daniel J. Grout, Eric R. Lichtwardt, Keith W. Merkel, Virginia Johnson)
23 March 1989	0900 - 1630 hours	Sunny, warm (Daniel J. Grout, Virginia Johnson)
28 March 1989	0920 - 1420 hours	Sunny, warm (Daniel J. Grout, Virginia Johnson)
29 March 1989	0830 - 1600 hours	Sunny, warm (Eric R. Lichtwardt, Keith W. Merkel)
04 April 1989	1000 - 1547 hours	Warm to hot, sunny, slight breeze (Daniel J. Grout, Virginia Johnson)
06 April 1989	0900 - 1410 hours	Hot, 103° F. (Daniel J. Grout, Eric R. Lichtwardt)

12 April 1989	0800 - 1500 hours	Sunny, warm (Daniel J. Grout, Eric R. Lichtwardt)
13 April 1989	0900 - 1230 hours	Sunny, warm (Daniel J. Grout)
18 April 1989	0830 - 1630 hours	Sunny, warm (Daniel J. Grout, David A. Mayer, Virginia Johnson)
19 April 1989	0900 - 1530 hours	Sunny, warm (Eric R. Lichtwardt, David A. Mayer, Virginia Johnson)
21 April 1989	1200 - 1630 hours	Sunny, warm (Daniel J. Grout)
25 April 1989	0830 - 1700 hours	Sunny, warm 70° F. (Daniel J. Grout, David A. Mayer, Virginia Johnson)
26 April 1989	0830 - 1600 hours	Sunny, warm (Eric R. Lichtwardt, David A. Mayer)
29 April 1989	0830 - 1145 hours	Sunny, cool (Daniel J. Grout, David A. Mayer, Virginia Johnson)
02 May 1989	0900 - 1500 hours	Hazy early then sunny (David A. Mayer)
03 May 1989	1030 - 1530 hours	Sunny, warm (David A. Mayer)
10 May 1989	1015 - 1500 hours	Overcast, cool (David A. Mayer)
17 May 1989	1030 - 1600 hours	Scattered clouds, warm (David A. Mayer, Daniel J. Grout)
18 May 1989	0900 - 1700 hours	Scattered clouds (David A. Mayer, Virginia Johnson)
23 May 1989	0900 - 1600 hours	Sunny, hot (David A. Mayer, Virginia Johnson)
24 May 1989	1000 - 1530 hours	Sunny, hot (David A. Mayer, Daniel J. Grout, Charles J. Lochtefeld)
30 May 1989	1030 - 1400 hours	Sunny, hot; slight breeze (David A. Mayer)
06 June 1989	1000 - 1330 hours	Sunny, hot; slight breeze (David A. Mayer, Virginia Johnson)
07 June 1989	1000 - 1600 hours	Overcast, warm (David A. Mayer, Charles J. Lochtefeld)

13 June 1989	0830 - 1630 hours	Sunny, warm (David A. Mayer, Charles J. Lochtefeld)
27 June 1989	0930 - 1330 hours	Sunny, hot (David A. Mayer, Daniel J. Grout, Charles J. Lochtefeld)
28 June 1989	0900 - 1600 hours	Sunny, hot (David A. Mayer, Daniel J. Grout)
29 June 1989	0930 - 1530 hours	Sunny, hot (Eric R. Lichtwardt, Daniel J. Grout)
07 July 1989	0800 - 1530 hours	Hot, sunny (Eric R. Lichtwardt)
10 July 1989	0900 - 1215 hours	Sunny, hot, windy (David A. Mayer, Charles J. Lochtefeld)
11 July 1989	0910 - 1150 hours	Sunny, hot (David A. Mayer, Daniel J. Grout)
17 July 1989	0915 - 1400 hours	Sunny, hot (David A. Mayer, Charles J. Lochtefeld)
20 July 1989	0800 - 1300 hours	Sunny, warm (David A. Mayer, Daniel J. Grout)
22 July 1989	0900 - 1300 hours	Sunny, warm (David A. Mayer, Charles J. Lochtefeld)
24 July 1989	0900 - 1300 hours	Hot, windy (David A. Mayer, Charles J. Lochtefeld, Daniel J. Grout)
25 July 1989	0900 - 1500 hours	Sunny, hot (David A. Mayer, Charles J. Lochtefeld, Daniel J. Grout)
28 July 1989	0900 - 1200 hours	Sunny, warm (David A. Mayer, Charles J. Lochtefeld)
01 August 1989	0900 - 1200 hours	Sunny, warm (David A. Mayer, Charles J. Lochtefeld)
02 August 1989	0800 - 1200 hours	Sunny, hot (David A. Mayer, Charles J. Lochtefeld)
10 August 1989	0700 - 1200 hours	Sunny, warm (Keith W. Merkel, Eric R. Lichtwardt, David A. Mayer)
15 August 1989	0830 - 1330 hours	Sunny, warm (David A. Mayer, Charles J. Lochtefeld)
02 September 1989	0600 - 1000 hours	Morning overcast, clearing by 0900 hours, 71° F. at 0600 hours; no wind (David A. Mayer, Kyle L. Ince, Keith W. Merkel, Barbara L. Merkel)

09 September 1989	0930 - 1230 hours	Clear, warm; light breeze (Daniel J. Grout)
10 September 1989	1600 - 1930 hours	Clear, cool, 78°; wind, 1-3 mph (Keith W. Merkel, Barbara L. Merkel)
10 April 1990	0800 - 1200 hours	Clear and sunny; wind 2-5 mph; 68° F. at 0930 hours. (Eric R. Lichtwardt, David A. Mayer)
12 October 1990	0900 - 1100 hours	Clear and sunny (Eric R. Lichtwardt, John E. Harris)
16 October 1990	0700 - 1100 hours	Morning fog then sunny; no wind; 70° F. at 0800 hours. (David A. Mayer, John E. Harris)
18 October 1990	0730 - 1130 hours	Mostly overcast; 70° F. at 0900 (Daniel J. Grout, Eric R. Lichtwardt)
30 October 1990	0730 - 1100 hours	Most overcast; No winds; 70° F. at 0900 (David A. Mayer, James P. Bahr)
02 November 1990	0815 - 1230 hours	Sunny; Winds 2-8 mph; 70° F. at 0900 (Eric R. Lichtwardt, David A. Mayer)
09 November 1990	0845 - 1300 hours	Clear and sunny; Wind 0-5 mph; 85° F. at 1100 hours (Daniel J. Grout, David A. Mayer)
04 March 1991	0930 - 1400 hours	Sunny/high clouds; winds 2-5 mph; 73° F. at 1100 hours. (David A. Mayer, Steven L. Penix)
05 March 1991	0930 - 1300 hours	Mostly cloudy; Winds 2-5 mph; 65° F. at 1000 hours, (Eric R. Lichtwardt, David A. Mayer)
02 April 1991	0830 - 1400 hours	Sunny; Winds 2-5 mph; 67° F. at 0930 (David A. Mayer, Sharon T. Harth)
04 April 1991	0830 - 1230 hours	Sunny; wind 2-5 mph; 75° F. at 0930 (David A. Mayer)
09 April 1991	0830 - 1400 hours	Sunny; wind 2-5 mph; 78° F. at 1100 (David A. Mayer, Sharon T. Harth)
17 April 1991	0900 - 1400 hours	Overcast; wind 0-8 mph; 65° F. at 0900 (David A. Mayer)
12 July 1991	0900 - 1400 hours	Morning overcast/sunny; wind 0-5 mph; 74° F. at 0930 hours (David A. Mayer, Steven L. Penix)
18 July 1991	0930 - 1530 hours	Mostly sunny; wind 3-8 mph; 78° F. at 1000 hours (David A. Mayer, Kevin J. Cull)

Wildlife identifications were aided by binoculars (10 x 40 power and 7 x 35 power). Unobserved species were identified through indirect signs (i.e., scat, tracks, calls, nests and burrows, etc.).

Prior biological surveys of the immediate region were examined to assess sensitive resources known from the vicinity of the site (Beauchamp and Rieger 1974; Reiger and Beauchamp 1979; Pacific Southwest Biological Services 1978a, 1978b, 1981, 1984, 1986, 1989).

Scientific nomenclature used in this report is from the following references: vegetation, Holland (1986); flora, Beauchamp (1986) and Munz (1974); birds, American Ornithologists' Union (1983, 1989); reptiles and amphibians, Collins (1990); mammals, Jameson and Peeters (1988); and wildlife habitats, Mayer and Laudenslayer (1988).

LOCATION

The Rancho San Miguel site includes all or portions of sections 11, 14, 15, 21, 22, 23, 26, 27, and 28 of Township 17 South, Range 1 West of USGS 7.5' Jamul Mountain Quadrangle, San Bernardino Base and Meridian (Figure 1). Proctor Valley Road delimits the southwestern boundary of the site while the northeastern perimeter is adjacent to Sweetwater Authority lands at the Reservoir.

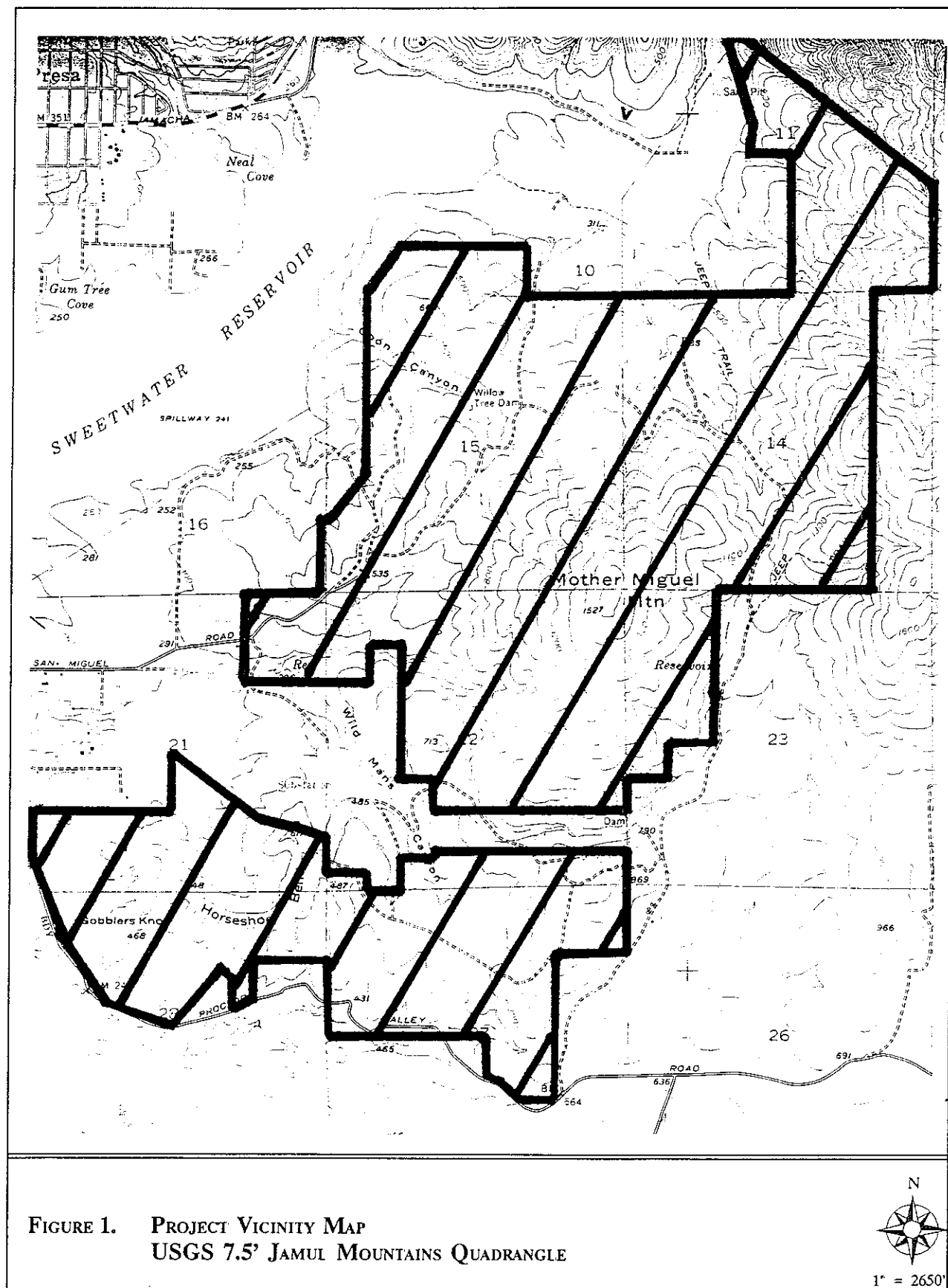
GENERAL PHYSIOGRAPHY

The Rancho San Miguel site is adjacent to reservoir buffer lands at the southeastern perimeter of Sweetwater Reservoir and includes all of Mother Miguel Mountain as well as the western slopes, up to the 1600-foot level, of San Miguel Mountain where the highest point on the property occurs. The lowest point occurs at the 200-foot level to the west of Gobbler's Nob along Proctor Valley Road. The site includes three earthen dam reservoirs.

An off-site area south of San Miguel Road was also included as part of the project area for purposes of off-site road improvements.

Soils mapped on the property are derived from metavolcanic and metasedimentary rocks of the Jurassic or Cretaceous Santiago Peak Volcanics and clay-lime soils derived from the Pliocene Otay Formation (Bowman 1973). The clay-lime soil is characterized by small lenses of lime in a clay matrix and occurs about the region of Horseshoe Bend.

The underlying geology is mapped as Santiago Peak metavolcanics on the upper portions of the property and Mission Valley, San Diego and Otay formations on the western, lower portion (Kennedy and Tan 1977).



BOTANICAL RESOURCES

VEGETATION

Previous use of the area as a cattle/dairy enterprise and the occurrence of the great 1970 fire, as well as subsequent fires, have caused a disturbed aspect in the vegetation. Although the property was heavily involved in the 1970 Laguna Fire, plant communities had recovered in 1974 to a recognizable state (Beauchamp and Rieger 1974). A few unburned areas were observed. Notable unburned areas include the 980-foot hill southwest of Rickey Dam and the 713-foot hill (Trout Hill) northeast of the Miguel Electrical Substation. The 980-foot hill is covered with a dry phase of Diegan Sage Scrub, while Trout Hill is mantled by an almost pure stand of Chamise (*Adenostoma fasciculatum*). Four plant associations were found on the site: Mixed Chaparral, Diegan phase of Inland Sage Scrub, Dry Marsh/Wetlands, and Annual Grassland (Figure 2a). Off-site access additionally supports limited Mule-fat Scrub Riparian vegetation (Figure 2b).

Mixed Chaparral

Chaparral is restricted to small areas on the higher portions of the hills and slopes. Aside from the unburned Chamise stand on Trout Hill, Chaparral was encountered at four localities on Mother Miguel Mountain and also at the eastern boundary of the site, where the western limit of the Upper Sonoran Life Zone of San Miguel Mountain crosses onto the property (Higgins 1949). Also present is Mission Manzanita (*Xylococcus bicolor*).

The frequent fires on the site over the past two decades has reduced the extent and diversity of Chaparral on the property. Also, grazing following these fires has resulted in a more open condition in all vegetation types.

Diegan Phase of Inland Sage Scrub

The bulk of the property is covered by Diegan phase of Inland Sage Scrub. On the less isolated, north-facing slopes, Toyon (*Heteromeles arbutifolia*), Scrub Oak (*Quercus dumosa*), and Spiny Redberry (*Rhamnus crocea*) are found mixed with Coastal Sagebrush (*Artemisia californica*), White Sage (*Salvia apiana*), Lemonade-Berry (*Rhus integrifolia*), and Golden Yarrow (*Eriophyllum confertiflorum*), suggesting a Chaparral/Diegan Sage Scrub ecotone. For mapping purposes, however, these areas are mapped as Diegan Sage Scrub due to the dominance of plants associated with that plant community.

The density of sage scrub varies widely on the property. Definition of the boundary between it and Chaparral have just been addressed. The boundary between sage scrub and grassland is even more indefinite. The sage scrub is characterized by Coastal Sagebrush and Flat-topped Buckwheat (*Eriogonum fasciculatum*).

Areas of Laurel-leaf Sumac (*Malosma laurina*) are included in this vegetation category although they are somewhat different in appearance.

Dry Marsh/Wetlands

The three reservoirs on the property and five primary drainages variously contain an interesting shoreline and sub-emergent flora adapted to high alkalinity and seasonal water deprivation. The aquatic plants found in these water bodies are not in themselves rare but such situations in San Diego County are. The littoral or shoreline vegetation is mostly adventive, except for San Diego Marsh-Elder (*Iva hayesiana*), a local endemic species which visually dominates most of the drainages with its dark, blue-green coloration. Also present in abundance in these drainages is Southwestern Spiny Rush (*Juncus acutus*). *Glinus lotoides* (previously misidentified as *Tidestromia lanuginosa*) has been known from the area for many years as an introduced plant from the central United States. It is interesting to note its dispersal to the Rancho San Miguel reservoirs from the apparently initial introduction site on Lower Otay Reservoir.

The littoral associations are subject to complete desiccation in summer months. Seepage from the larger impoundments, however, stimulates scattered Mule-fat (*Baccharis salicifolia*), willow (*Salix* sp.), and Tamarisk (*Tamarix* sp.) into these associations.

Mule-fat Scrub Riparian

Along ephemeral streambeds and around reservoirs, a Mule-fat Scrub of riparian vegetation is found in scattered locales. The dominance by Mule-fat is indicative of a mesic condition, but one that is not sufficient for substantial riparian growth. Drainages with impoundments have this low-grade or incipient wetland vegetation both upstream and downstream of the retention basins. Large areas of the off-site road are dominated by this Mule-fat Scrub association and support scattered clusters of Arroyo Willow (*Salix lasiolepis*).

Annual Grassland

The sedimentary formations on the lower, western portion of the site are now Annual Grasslands due to prior grazing, past fires, and to a minor degree, the presence of clay soils. A major clay lens occurs also in the eastern portion of the property.

The grassland is composed of Wild Oat (*Avena barbata*), Foxtail (*Hordeum murinum*), Ripgut (*Bromus diandrus*), Field Mustard (*Brassica geniculata*), and Vinegar Weed (*Trichostema lanceolatum*). Several native elements also occur in the rather disturbed habitat, i.e., Tarplant (*Hemizonia fasciculata*) and Telegraph Weed (*Heterotheca grandiflora*).

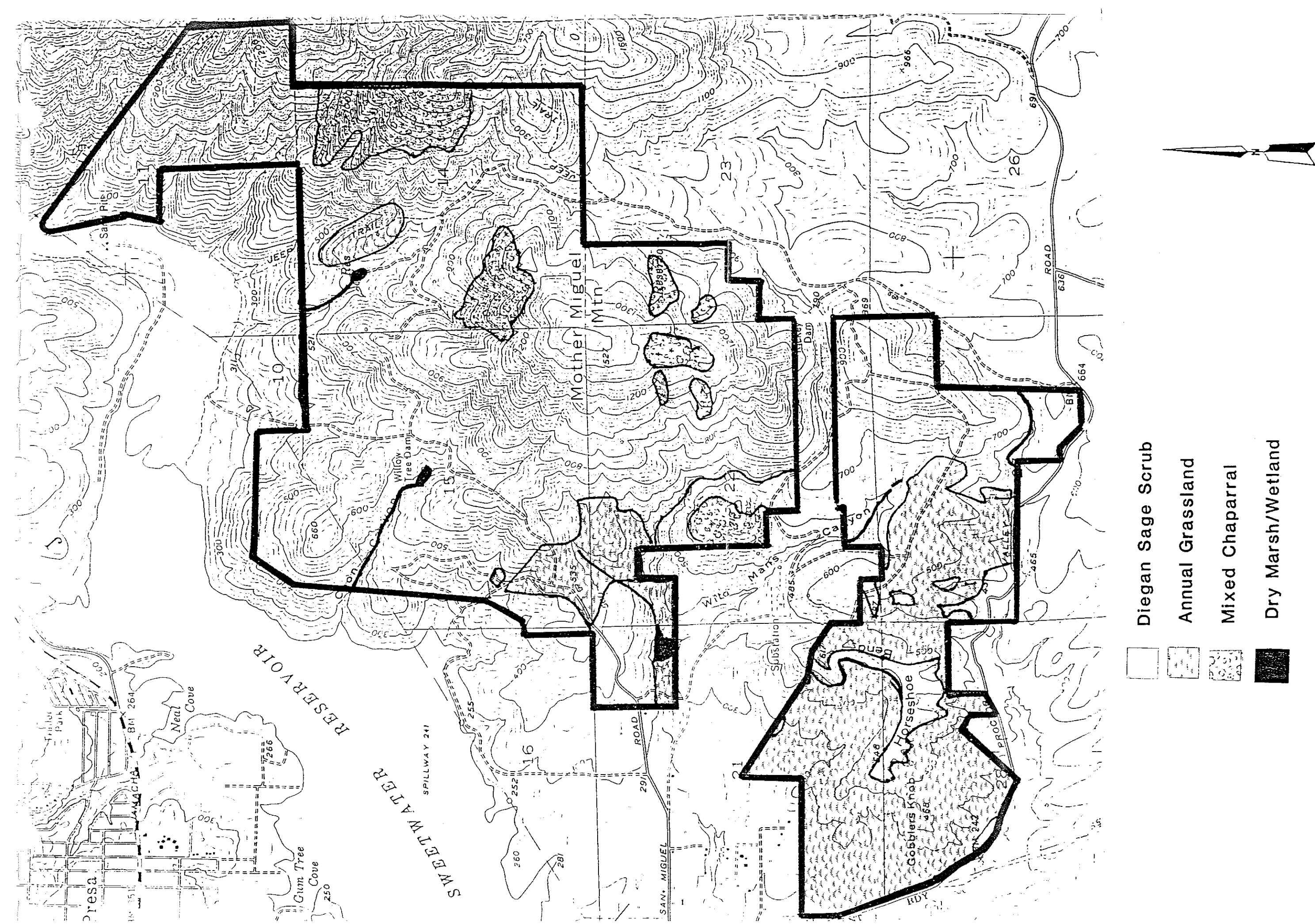
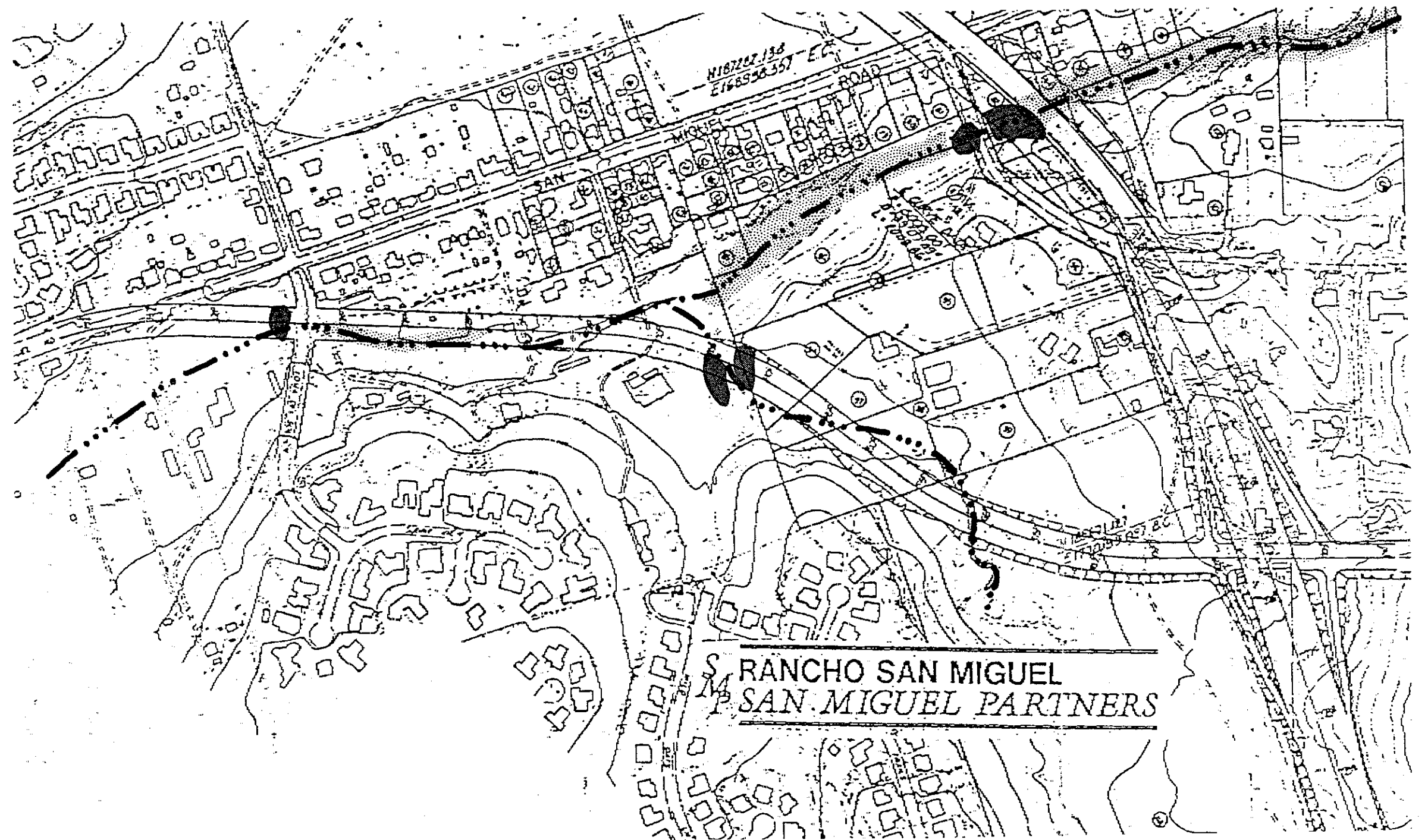


FIGURE 2A. VEGETATION

1" = 1600'



Mulefat



Willow

--- Streambed



FIGURE 2B. SITE ACCESS WETLAND VEGETATION

1" ≈ 400'

In the eastern clay lens site there is a substantial bulbous plant population including Wild Hyacinth (*Dichelostemma pulchellum*), Wild Onion (*Allium praecox*), Golden Stars (*Bloomeria crocea*), and the rare Cleveland's Golden Star (*Muilla clevelandii*) and San Diego Haseanthus (*Dudleya variegata*). Purple Needlegrass (*Nassella (Stipa) pulchra*) dominates scattered portions of this clay lens area.

FLORA

A total of 247 species of plant taxa were observed on the site; of these, 62 were non-native (Table 1). Given the acreage of the project site, this represents an impressive floristic diversity given the relatively limited number of vegetation niches. An additional 20-30 species probably inhabit the site, primarily at the higher elevations. These are largely ephemeral spring annuals and small subshrubs found within impenetrable chaparral and thick sage scrub on steep slopes. Some of the sensitive species noted at nearby San Miguel Mountain are potentially included in this group. Sensitive plants known to occur on Rancho San Miguel are discussed in the Sensitive Plants section of this report and the distributions are illustrated in Figure 3.

ZOOLOGICAL RESOURCES

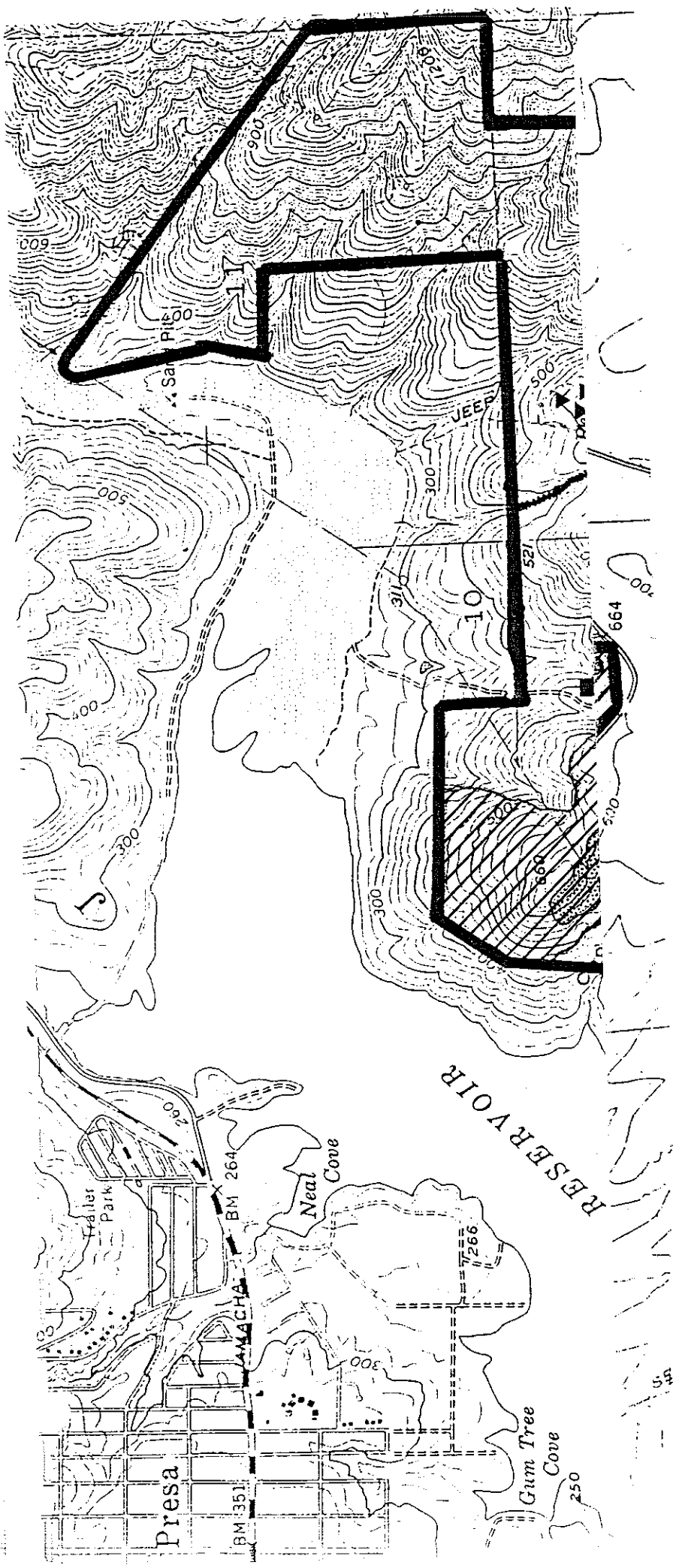
GENERAL WILDLIFE HABITAT

There are six basic wildlife habitats present on the site: Coastal Scrub, Annual Grassland, Chaparral, Rocky Outcrops, Freshwater Pond, and Exotic Plantings/Ranch Yard. Coastal Scrub, Annual Grassland, and Chamise Chaparral are the most extensive habitats on the site. The grassland and scrub interdigitate along many of the lower slopes providing excellent habitat for a number of vertebrate species.

Coastal Scrub

This low-growing, relatively open scrubland is dominated by a number of drought-deciduous shrubs, giving it a somewhat bleak appearance during the summer and early fall. Coastal Scrub, for purposes of wildlife habitat definition, encompasses several plant associations, including Diegan Sage Scrub and Maritime Succulent Scrub. Regionally, Coastal Scrub occurs in a narrow band along the Southern California coast ranging inland to the San Jacinto Valley of Riverside County.

Major portions of this habitat type have been eliminated in Southern California by urban development, and much of what remains has been fragmented or severely degraded as wildlife habitat. Most of the Coastal Scrub formerly occurring in Los Angeles County is gone and over 72% of this scrubland has been lost in San Diego County (T. A. Oberbauer, pers. comm.). On Rancho San Miguel this vegetation ranges in density from



- | | | | |
|--|-------------------------------|--|---------------------------|
| | Adolphia californica | | Muilla clelandii |
| | Artemisia palmeri | | Salvia munzii |
| | Dudleya variegata | Selaginella cinerascens (Throughout Sage Scrub) | |
| | Ferocactus viridescens | | Viguiera laciniata |
| | Iva hayesiana | | |

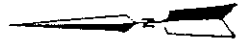


FIGURE 2 SENSITIVE PLANTS

1" = 1600'

A large number of the vertebrate species found in Coastal Scrub also inhabit the chaparral communities; examples include Southern Pacific Rattlesnake (*Crotalus viridis helleri*), Western Fence Lizard (*Sceloporus occidentalis*), California Towhee (*Pipilo crissalis*), Coastal Sage Sparrow (*Amphispiza belli belli*), and Desert Woodrat (*Neotoma lepida*).

Annual Grassland

This habitat supports fewer species of vertebrates than scrublands; however, it is nevertheless an important habitat for many animals. On the project site, large numbers of wintering Savannah Sparrows (*Passerculus sandwichensis*) were found in the grassland habitat. Several races of Savannah Sparrow which breed farther north migrate into San Diego County during the winter (Unitt 1984). These races are difficult to distinguish in the field. During the spring and early summer, breeding Grasshopper Sparrows (*Ammodramus savannarum*) were noted in the grassland, particularly where it interdigitates with Coastal Scrub.

Several large areas of this habitat have been so severely overgrazed that the grasses are now very sparse with large patches of barren ground. Horned Larks (*Eremophila alpestris*), American Pipits (*Anthus rubescens*), and Western Meadowlarks (*Sturnella neglecta*) particularly favor these open areas. These species are more prevalent during the winter months.

The California Ground Squirrel (*Spermophilus beecheyi*) and other small mammals are often common in open Annual Grassland, and in turn attract large rodent-eating snakes such as the Southern Pacific Rattlesnake and Gopher Snake (*Pituophis melanoleucus*). Similarly, the excellent view afforded of their prey makes grassland of high value as raptor foraging habitat. All of the raptors recorded for the site were at one time or another observed foraging over Annual Grassland. These areas are particularly important to the Northern Harrier (*Circus cyaneus*), Prairie Falcon (*Falco mexicanus*), and Burrowing Owl (*Athene cunicularis*) which generally require more open habitat in which to effectively locate their prey.

Freshwater Ponds

Several small freshwater ponds or cattle tanks occur on the site. Although these ponds were mostly dry during the earlier portions of the field work, all were filled and overflowing following the spring rains of 1991. In the following weeks these ponds supported numerous tadpoles of the Pacific Chorus Frog (*Pseudacris regilla*), California Toad (*Bufo boreas halophilus*), and Western Spadefoot Toad (*Spea hammondi*). In addition, twenty-six species of waterbirds were observed utilizing ponded waters over the survey period (see Birds).

Wetland vegetation associated with pond areas is generally limited to San Diego Marsh-Elder, Cat-tails, and Mule-fat, with Broom Baccharis also commonly found around pond edges. These mesic locales supported the Common Yellowthroat (*Geothlypis trichas*) as well as numerous species typically found in out-lying scrub vegetation. Several medium-sized willows also grow near the upstream end of Willow Tree Pond in the northwest portion of the site, but these trees are far too sparse to support noted willow riparian breeding birds.

Pond areas are expected to provide a regular but seasonal water source for larger mammals such as the Mule Deer (*Odocoileus hemionus*), Bobcat (*Lynx rufus*), and Mountain Lion (*Felis concolor*). These areas may be especially useful to this latter species which tends to avoid areas of human activities.

Rocky Outcrops

Scattered throughout the site are rocky outcrops of various sizes. Several of the outcrops on the steep slopes of San Miguel Mountain are quite extensive and contain massive boulders. A number of vertebrate species utilize rocky outcrops, including up to five specialized reptiles (see **Reptiles**). Rodents, such as the Desert Woodrat, Ringtail (*Bassariscus astutus*), Canyon Wren (*Catherpes mexicanus*), and Rock Wren (*Salpinctes obsoletus*), also utilize the outcrops extensively.

The steep, rocky cliff faces present along the southwestern face of San Miguel Mountain provide nesting and roosting sites for such large birds as the Common Raven (*Corvus corax*), Great Horned Owl (*Bubo virginianus*), other raptor species, and possibly for various species of bats. An active Great Horned Owl nest was noted in a rocky cliff in the southeast portion of the northern parcel during the spring of 1991. The rocky outcrops on the site are also important winter shelters for rattlesnakes and other large snakes.

Exotic Plantings/Ranch Yards

Several species of exotic trees have been planted around the ranch house and on other areas of the site. These trees include Peruvian Pepper Trees, Olive, and Mexican Fan Palm. Many species of birds utilize these trees for nesting, roosting, or foraging. Barn Owls (*Tyto alba*) were frequently flushed from large Peruvian Peppers growing near the olive grove along the western edge of the site. Flowering Silk Oaks attract hummingbirds, orioles, migrating warblers and tanagers, as well as other birds. Some large eucalyptus trees adjacent to the property provide nesting and roosting sites for raptors, such as Golden Eagles, Red-tailed Hawks, and Red-shouldered Hawks (*Buteo lineatus*).

The ranch yards are frequented by introduced species including the European Starling (*Sturnus vulgaris*), House Sparrow (*Passer domesticus*), Rock Dove (*Columba livia*), and House Mouse (*Mus musculus*). Common native species include the Mourning Dove (*Zenaida macroura*), Black Phoebe (*Sayornis nigricans*), and House

Finch (*Carpodacus mexicanus*); on one occasion a large flock of Lark Sparrows (*Chondestes grammacus*) foraged in a horse pasture. Several abandoned buildings on the site, one quite close to the ranch house, are inhabited by Barn Owls.

AMPHIBIANS

Four species of amphibians were detected during 1990 and 1991, with an abundance of tadpole larva noted in all of the stock ponds and in other low lying basin areas following the heavy spring 1991 rains. No amphibians had been observed during 1988-89 primarily due to the fact that surface conditions were very dry during almost all of this field work. This tract of land is xeric in general, with no woodlands or permanent surface water. Because of these environmental features the site is not expected to support a rich amphibian fauna. However, several species of interest have been observed, including the Garden Slender Salamander (*Batrachoseps major*) and the Western Spadefoot.

The Western Spadefoot spends large amounts of time underground avoiding dry surface conditions. These anurans emerge during the first heavy winter rains to breed in temporary pools and ponds; they do not utilize extensive aquatic habitats such as Sweetwater Reservoir because of the presence of predatory fish. As noted above, the stock ponds on-site supported numerous spadefoot tadpoles following the heavy rains in the spring of 1991. This species was noted in large numbers in the ponds ranging from small pond on the south side of Mother Miguel Mountain, to the northwest corner of the site where it was found in shallower depressions which held water only until early May. The other stock ponds noted on the property also supported this species; tadpoles could be seen gathered in huge numbers in the shallow waters near a pond's edge. Juvenile Spadefoot Toads were also observed in areas surrounding moist locales into the late spring. The Western Spadefoot is endemic to California and northwest Baja California, Mexico but has been extirpated from over large areas of lowland Southern California due to urban development. These amphibians would be most expected in the Coastal Scrub on the lower slopes of the property; however, their presence in all of the ponds suggests a wider on-site distribution.

Tadpoles of two other amphibians were also observed. Those of the California Chorus Frog (*Pseudacris regilla*) were noted mainly in the northwest portion of the site but are also likely to occur throughout much of the property. Numerous juveniles of this species were also observed into the summer in moister locales and surrounding drying water pools. Tadpoles of the California Toad (*Bufo boreas halophilus*) were observed much less frequently compared to the above-mentioned species, again being primarily detected in the northwest portion of the site. Both the Pacific Chorus Frog and California Toad are fairly common and widespread species, and

inhabit a variety of habitats including rural residential areas. In early summer of 1991, Bullfrog (*Rana catesbeiana*) tadpoles were observed in the pond in the northern portion of the site. These probably originated from the Sweetwater River area or possibly the ponds located on the Otay Water District property, lying just east of the subject site.

Two small Garden Slender Salamanders were detected beneath a rock during fairly moist surface conditions in the spring of 1991. This secretive species retreats into deep crevices, earthworm burrows, and other protective moist areas during the drier months; detection is very difficult during such times. These salamanders are probably most common along canyons and other relatively mesic areas.

REPTILES

Large tracts of land such as Rancho San Miguel, covered by Coastal Scrub, grasslands, chaparral, and rocky outcrops on the coastal slope of San Diego County, support from 24 to 28 species of reptiles (E. Lichtwardt, pers. obs.; L. M. Klauber, field notebooks and museum records) (Table 2). Many of these species, such as the California Glossy Snake (*Arizona elegans occidentalis*), California Black-headed Snake (*Tantilla planiceps*), Long-nosed Snake (*Rhinocheilus lecontei*), and Night Snake (*Hypsiglena torquata*), are very secretive and difficult to find on the coastal slope. These snakes were not observed during the field surveys; however, they are expected to occur on the site along with a number of other infrequently seen species.

Eight large, fairly common snake species were seen during the field work either on the site or along the horse trail adjacent to the site (Table 2). These include the Rosy Boa (*Lichanura trivirgata*), Coachwhip (*Masticophis flagellum*), California Striped Racer (*Masticophis lateralis*), Gopher Snake, Common Kingsnake (*Lampropeltis getulus*), Red Diamond Rattlesnake (*Crotalus ruber*), and Southern Pacific Rattlesnake.

The highly aquatic Two-striped Garter Snake (*Thamnophis hammondi*) was also seen on the property as it had become trapped in the bottom of an abandoned well. This species of garter snake has been found far from permanent water on the top of both San Miguel and Otay Mountain (E. Lichtwardt, pers. obs.; L. M. Klauber, field notes), but undoubtedly are emanating from the aquatic areas.

One other snake which is not commonly found along the coast but has been seen along the horse trail about 0.5 miles from the site is the Coast Patch-nosed Snake (*Salvadora hexalepis virgulata*). This species is expected on the site as well.

Six species of lizards were observed during the field work and include the Western Fence Lizard, Side-blotched Lizard (*Uta stansburiana*), San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*), Southern Alligator Lizard (*Elgaria multicarinata*), Orangethroat Whiptail (*Cnemidophorus hyperythrus*), and Western

Whiptail (*Cnemidophorus tigris*) (Table 2). The Western Fence Lizard, Side-blotched Lizard, and Western Whiptail were the most frequently observed species. An additional common but secretive species, the Western Skink (*Eumeces skiltonianus*), is undoubtedly also present on the site. The massive rock outcrops on the slopes of San Miguel Mountain are excellent habitat for several specialized rock dwellers which are reported from nearby parcels: the San Diego Banded Gecko (*Coleonyx variegatus abbotti*) (PSBS 1981; Reiger and Beauchamp 1979); the Granite Night Lizard (*Xantusia henshawi*) (PSBS 1981; Reiger and Beauchamp 1979); and the Granite Spiny Lizard (*Sceloporus orcutti*) (Reiger and Beauchamp 1979; PSBS 1978a). The Lyre Snake (*Trimorphodon biscutatus*) and Speckled Rattlesnake (*Crotalus mitchelli*) are also strongly associated with rocky outcrops and may occur on-site as well.

BIRDS

One hundred twenty-four species of birds were observed during the field work on Rancho San Miguel (Table 2). Everett (1979b) recorded 174 species of birds from the Sweetwater Reservoir area which includes parts of the project site. The main importance of the site for birds lies in the fact that it supports an outstanding community of Coastal Scrub species, many of which are extirpated over large areas of their former ranges or are local and patchy in distribution. Examples include the San Diego Cactus Wren, California Gnatcatcher, Rufous-crowned Sparrow (*Aimophila ruficeps*), Coastal Sage Sparrow, and Grasshopper Sparrow. The area is also significant for its diverse raptor fauna. Because of the large numbers of species observed during this study, the following discussion is divided into several categories.

Waterbirds

Because of the location of Rancho San Miguel, adjacent to Sweetwater Reservoir and between both Sweetwater Reservoir and Lower Otay Lake, a large number of waterbirds not typically found on inland sites were observed. Several of these were simply flyovers due to the off-site reservoirs; however, seasonal ponds also attracted many of these species. None of these waterbirds would be considered permanent residents of the site.

Seven species of ducks were observed at the pond. Most of these are winter visitors to the area; for example, Northern Pintail (*Anas acuta*), Gadwall (*Anas strepera*), Ring-necked Duck (*Aythya collaris*), and Lesser Scaup (*Aythya affinis*). The Mallard (*Anas platyrhynchos*), Cinnamon Teal (*Anas cyanoptera*), and Ruddy Duck (*Oxyura jamaicensis*) were also seen on any one of several stock ponds during various site visits. Seven species of shorebirds which feed primarily along the edges of the water were observed during migration periods. One of these species, the Killdeer (*Charadrius vociferus*), is present on the site throughout the year, often being found in open areas away from water. The Great Blue Heron (*Ardea herodias*), Great Egret (*Casmerodius albus*),

Snowy Egret (*Egretta thula*), Green-backed Heron (*Butorides striatus*), and Belted Kingfisher (*Ceryle alcyon*) were all seen around ponds at various times. These species most likely feed on the amphibians present, which is obviously a temporary resource due to the seasonal nature of the ponds. Ponds would therefore not be considered a major habitat for these birds compared to the off-site reservoir or Sweetwater River.

Other species associated with large bodies of open water include: Double-crested Cormorant (*Phalacrocorax auritus*), Ring-billed Gull (*Larus delawarensis*), California Gull (*Larus californicus*), Caspian Tern (*Sterna caspia*), and Forster's Tern (*Sterna forsteri*). These species, which are all strong flyers, were probably moving between the reservoirs noted above when they flew over the site.

Raptors

Fourteen species of raptors were observed on the site. Three of these species, the Common Barn Owl (*Tyto alba*), Burrowing Owl, and Great Horned Owl, forage mainly at night. There is good nesting habitat for all these raptor species, and a Great Horned Owl nest with two nearly fledged chicks was detected in a rocky cliff during the spring of 1991. Barn Owls were regularly seen on-site in two locales, and irregularly at other areas of the property. Actual nesting was never confirmed but their regular, year-round use of roosting sites suggests they would also breed on-site. The Burrowing Owl was noted in two locales during the spring of 1989 but has not been re-located on the property since that time. Its status on-site is therefore uncertain. Large blocks of suitable habitat for this species does occur on the gently sloping grasslands, open scrub, and pasturelands; however, the observed birds may have been transients.

The Black-shouldered Kite, Red-shouldered Hawk (*Buteo lineatus*), Red-tailed Hawk, and American Kestrel (*Falco sparverius*) are the most common diurnal raptors in this area and all of these species utilize the habitats present on the site for foraging. Red-tailed Hawks and American Kestrels are especially common and are regularly seen foraging over much of the property. Species such as the Red-shouldered Hawk, which are partial to wooded areas, may only utilize the site marginally because there are few large trees present. This use is probably most pronounced along the eastern boundary of the northern parcel, as a pair of Red-shouldered Hawks appears to be resident in a grove of eucalyptus trees located just off-site, on Otay Water District property. As the lands flanking this woodland from the east have been disturbed for water district uses, and due to the close proximity of the grove to the subject property, it is likely this species would frequently forage on-site. The Cooper's Hawk (*Accipiter cooperii*) prefers riparian or oak woodland but will forage over open country, particularly during the winter. This species was frequently observed foraging on the property, and may nest in the nearby high quality riparian woodland in the Sweetwater River.

The Black-shouldered Kite prefers wooded areas flanked by grasslands or marshy areas, habitat more common east of Sweetwater Reservoir. This species was only infrequently noted foraging on-site. Also noted was the Sharp-shinned Hawk (*Accipiter striatus*), a wintering species noted in the northernmost portions of the property but generally more associated with the off-site Sweetwater River riparian vegetation. A large raptor which favors open grasslands is the Ferruginous Hawk (*Buteo regalis*); however, this is also strictly a wintering species to the region. This large hawk was not observed on the property but could forage in the large grasslands of the southern parcel in particular.

The Northern Harrier, while not an uncommon winter visitor, is rare as a breeder in Southern California. This ground-nester has declined as a breeding species because of widespread destruction of open, grassy areas by development. Harriers were commonly observed during the winter months and at least one pair was seen on the property during the breeding season, suggesting possible nesting on-site or an immediately adjacent area. Proctor Valley is also one of few reported historic nesting locales for Northern Harriers (Unitt 1984), with the Sweetwater Reservoir vicinity also having supported nesting by this species (PSBS 1981).

Golden Eagles are one of the top level predators on the site. These eagles feed on ground squirrels, cottontails, jackrabbits, and larger prey. This species was sighted on most site visits and was often seen foraging over the low grasslands and open scrublands in the northern and western portion of the site. It was also observed to utilize powerline towers and rock outcrops in the higher eastern and northeastern areas for roosting and perching. Golden Eagles have historically nested on the site and immediately adjacent to the property (Figure 4) (T. Scott, pers. comm.). Although the present localized breeding status is uncertain, a juvenile and adult Golden Eagle were regularly seen through the fall and winter of 1990-91. Human and urban encroachment is a very high concern to Golden Eagles, as it can easily lead to territory abandonment or/or reduced nesting.

Two large species of falcons were observed as foraging on-site, the Prairie Falcon and Peregrine Falcon. Although these two species are similar in size, they tend to take different types of prey; the Prairie Falcon feeding more on mammals and the Peregrine on birds. However, they both take a wide variety of prey items (Cade 1982). Several other species of raptors have been recorded from the area and are expected to utilize the site occasionally.

The Turkey Vulture (*Cathartes aura*), while not a true raptor, forages for carrion in a similar manner to many opportunistic raptors. These vultures frequently were seen soaring over the site but were most common during the winter months.

The Common Raven, one of the largest and most intelligent passerine birds, was common on the site. These corvids are very raptor-like in their behavior and nest on the rocky cliffs and powerline towers of San Miguel and Mother Miguel mountains.

Owls and Prairie Falcons frequently rely on unoccupied raven nests for breeding sites since they do not build their own nests.

Wintering Birds and Migrants

A number of species migrate through or winter on the site. Most of the waterbirds and some raptors, such as the Ferruginous Hawk, fall into this category. Typical migrants include Vaux's Swift (*Chaetura vauxi*), Violet-green Swallow (*Tachycineta thalassina*), Olive-sided Flycatcher (*Contopus borealis*), Pacific-slope Flycatcher (*Empidonax difficilis*), Swainson's Thrush (*Catharus ustulatus*), Blue-gray Gnatcatcher (*Poliophtila caerulea*), Solitary Vireo (*Vireo solitarius*), Warbling Vireo (*Vireo gilvus*), Orange-crowned Warbler (*Vermivora celata*), Black-throated Gray Warbler (*Dendroica nigrescens*), Wilson's Warbler (*Wilsonia pusilla*), and Black-headed Grosbeak (*Pheucticus melanocephalus*). Both Allen's Hummingbirds (*Selasphorus sasin*) and Rufous Hummingbirds (*Selasphorus rufus*) were seen around clumps of Tree Tobacco during spring and late summer months. None of these species nest near the site, but they utilize the vegetation or the air space above for foraging during their migratory periods.

Typical wintering species in grassland and scrub habitats which were observed on the property include: American Pipit, Hermit Thrush (*Catharus guttatus*), Yellow-rumped Warbler (*Dendroica coronata*), Fox Sparrow (*Passerella iliaca*), Savannah Sparrow, Lincoln's Sparrow (*Melospiza lincolnii*), Golden-crowned Sparrow (*Zonotrichia atricapilla*), and White-crowned Sparrow (*Zonotrichia leucophrys*). The Vesper Sparrow (*Pooecetes gramineus*), which has in general declined as a winter visitor, was observed frequently in open sage scrub and grassland. An unusual wintering species for the region which was observed is the Sage Thrasher (*Oreoscoptes montanus*). Historically it occurred more commonly and its current near absence may be attributed to the vast regional loss of broken chaparral and sage scrub (P. Unitt, pers. comm.). Another common wintering flycatcher observed was the Say's Phoebe (*Sayornis saya*); however, a pair of these birds were also observed through the spring breeding season in 1990 and 1991. Although this is an unusual event, breeding Say's Phoebes have been recorded at other localities in the county (Unitt 1984). A complete list of observed wintering species is found in Table 2.

Residents and Summer Breeders

The majority of the species encountered are either permanent residents or occur on the site as summer breeders. A number of these species probably nest off-site but utilize the subject property for foraging or flying between nesting and feeding areas. Some examples are the Cassin's Kingbird (*Tyrannus vociferans*), Western Kingbird (*Tyrannus verticalis*), and Northern Oriole (*Icterus galbula*).

Many of the typical scrubland species of the coastal slope were found on the site. These include the Greater Roadrunner (*Geococcyx californianus*), California Quail (*Callipepla californica*), Bewick's Wren (*Thryomanes bewickii*), Wrentit (*Chamaea fasciata*), California Thrasher (*Toxostoma redivivum*), Bushtit (*Psaltirparus minimus*), California Towhee, and Rufous-sided Towhee (*Pipilo erythrophthalmus*). These species are regularly found in Coastal Scrub and chaparral habitats. Other fairly widespread species which were observed during the breeding season and may be nesting on-site are the Northern Mockingbird (*Mimus polyglottos*), Loggerhead Shrike (*Lanius ludovicianus*), Common Yellowthroat (*Geothlypis trichas*), Lazuli Bunting (*Passerina amoena*), Black-chinned Sparrow (*Spizella atrogularis*), Lark Sparrow (*Chondestes grammacus*), Song Sparrow (*Melospiza melodia*), House Sparrow (*Passer domesticus*), and Lesser Goldfinch (*Carduelis psaltria*). Several Lesser Nighthawks (*Chordeiles acutipennis*) were found breeding on the site, an occurrence not frequently encountered. Although the nighthawk is not considered sensitive, it again points to the very high diversity of breeding birds encountered on the property.

As mentioned, several species of concern breed on the property. These are all restricted to different degrees in their habitat requirements, and when encountered are typically found in very low numbers. All of these species occur in relatively high numbers on the subject property, and include the San Diego Cactus Wren, California Gnatcatcher, Coastal Sage Sparrow, Rufous-crowned Sparrow, and Grasshopper Sparrow. Of special importance are the presence of large numbers of California Gnatcatchers, in excess of 75 pairs, as well as at least 11 pairs of San Diego Cactus Wrens on or immediately adjacent to the site. These two species are generally restricted to Coastal Scrub habitats, and are becoming less and less common due to the rapid development of the coastal lowlands (see Sensitive Vertebrates).

The Rancho San Miguel property supports a very rich assemblage of resident breeding birds as well as a high diversity of wintering species. This combination of high individual numbers of sensitive species as well as overall diversity of avifauna represents a very rare circumstance which is unlikely to be duplicated in such a region of rapid urbanization. This is no doubt a result of the high quality and diversity of habitats present, the

relatively low level of development and human intrusion into these habitats, and possibly also due to the unique geographic features provided by the adjacent reservoir, river, and mountainous area of San Miguel.

Also worth mentioning is that the on-site lands flank an extremely rich riparian bird fauna. The Sweetwater River area upstream from Sweetwater Reservoir supports one of the largest populations of the federally Endangered Least Bell's Vireo and other sensitive species such as the Yellow-breasted Chat (*Icteria virens*) and Yellow Warbler (*Dendroica petechia*). This area lies less than 0.25 mile from the Rancho San Miguel site.

MAMMALS

Fifteen species of mammals were either observed directly or detected by tracks, scat, burrows, pellets, or other indirect sign (Table 2). An earlier survey of the site identified additional species of rodents. Mammals, in general, are secretive and nocturnal; trapping is required to thoroughly sample a mammalian fauna. No trapping was conducted during this survey as no sensitive species of small mammals are expected to occur on the site.

California Ground Squirrels were numerous and especially noted in disturbed or overgrazed grasslands and in wood piles. Desert Cottontails (*Sylvilagus audubonii*) were also commonly seen during the day as they were flushed out of the thickets of sage. Both of these mammals are important prey items for carnivores, raptors of various species, and large snakes.

The heteromyid and murid rodent fauna is expected to be fairly diverse on the site. The burrows and dusting areas of Pacific Kangaroo Rats (*Dipodomys agilis*) were common in open areas of Coastal Scrub. Several species of pocket mice, including the California Pocket Mouse (*Perognathus californicus*) and San Diego Pocket Mouse (*Perognathus fallax*), are known from the site or are expected to occur. Woodrat nests commonly associated with rock outcrops, cactus patches, and heavy brush; individuals were also observed during the day on several occasions. Two species of woodrat likely inhabit the site. The Desert Woodrat is often found in rock outcrops and cactus patches while the Dusky-footed Woodrat (*Neotoma fuscipes*) is more typical of more mesic locales such as drainages and more dense scrub or chaparral vegetation. The Dusky-footed Woodrat was identified during a previous survey (Beauchamp and Rieger 1974).

Both the Deermouse (*Peromyscus maniculatus*) and the California Mouse (*Peromyscus californicus*) were found during a previous survey and several other species of *Peromyscus* may also occur. Botta's Pocket Gopher (*Thomomys bottae*) diggings were common throughout the site. Other rodents which are possible include the Southern Grasshopper Mouse (*Onychomys torridus*), Harvest Mouse (*Reithrodontomys megalotis*), and California

Vole (*Microtus californicus*). Another interesting mammal, the Desert Shrew (*Notiosorex crawfordi*), has been found in Coastal Scrub in nearby Poggi Canyon (Eric R. Lichtwardt, pers. obs.). This insectivore is probably present in Coastal Scrub habitat on the site as well.

Undoubtedly a number of species of bats forage for insects over the site during the night. The steep, rocky cliffs present on the slopes of San Miguel Mountain would provide roosting places for some species. The large Western Mastiff Bat (*Eumops perotis*) favors areas with cliffs where they roost in large crevices. This is the largest species of bat in western North American and typically forages high in the air column.

Carnivore sign was commonly encountered. Coyotes were seen several times and a Bobcat was observed on one occasion. Gray Fox and Raccoon (*Procyon lotor*) were also identified as present by their scat and/or tracks. The secretive Ringtail, a small relative of the Raccoon, may be present in the larger rocky canyons in the northern part of the site. Two other carnivores which are expected to be found on the site are the Striped Skunk (*Mephitis mephitis*) and Western Spotted Skunk (*Spilogale gracilis*).

The Badger has been reported from the Sweetwater Reservoir area (Beauchamp and Rieger 1974; Bond 1977) and this large, powerful mustelid may still be present. Rancho San Miguel is one of the few places left on the southern coast of San Diego County which could support these carnivores. Large mammalian carnivores, such as the Coyote, Bobcat, and Badger, as well as other top level predators (Golden Eagles, Mountain Lions, large snakes, etc.) are important in maintaining biological diversity. As habitat is fragmented and these large animals become extirpated, a gradual decline in diversity can be expected at all levels of the ecosystem (Terborgh 1988). For example, in the absence of top level predators, smaller predators may increase and produce a corresponding decrease in numbers of individuals or species lower in the food chain. Such instability can lead to local extinction of many species not directly involved in higher level predator/prey relationships.

Mule Deer (*Odocoileus hemionus*) are fairly common on the site, particularly in the northern areas and higher elevations. Several of the larger canyons running between Mother Miguel and San Miguel Mountain appear to be important wildlife corridors as indicated by the well worn deer trails and an abundance of droppings along the canyon bottoms. The entire site is important as foraging area; however, the higher, remote grass benches and undisturbed areas on the higher slopes are prime bedding and foraging areas for the deer (Figure 5). Mountain Lions (*Felis concolor*) may occasionally pass through the site utilizing these trails. Large prints were observed on numerous occasions; however, the conditions of these prints were never such that positive identification could be made. Definitive Mountain Lion tracks were noted, however, just off-site along the Sweetwater River corridor. The presence of Mule Deer and the regional water could easily attract lions to

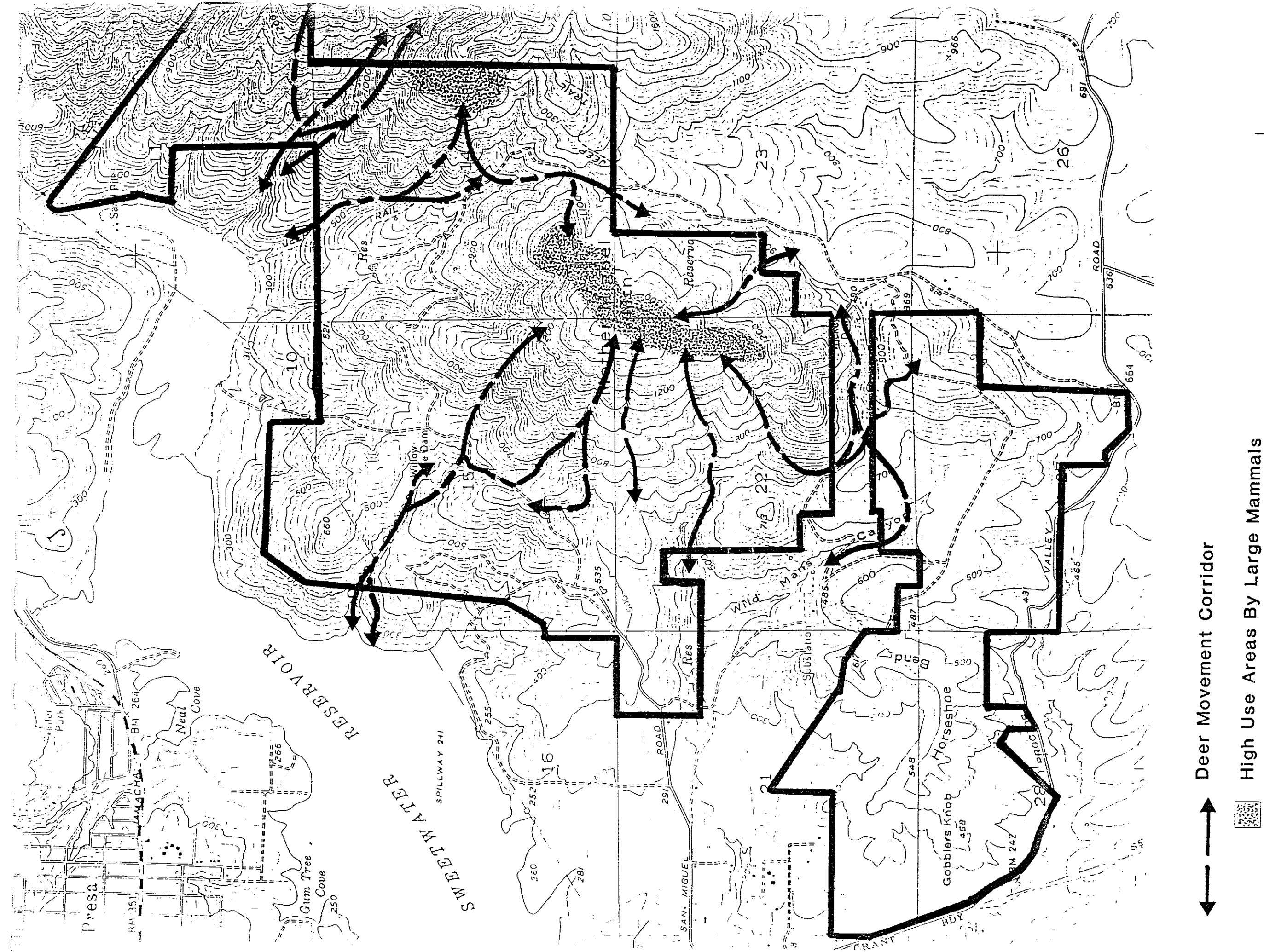


FIGURE 5. WILDLIFE CORRIDORS

1" = 1600'

the property. In general, the presence of Sweetwater Reservoir and the fact that there is extremely limited development and access along the lake greatly increases the value of the site for deer and other large mammals.

In summary, because of the large size of the project site, the presence of large tracts of Coastal Scrub, and its geographic location between Sweetwater Reservoir and the dry, rugged slopes of San Miguel and Mother Miguel mountains, the property has outstanding value as regional wildlife habitat. The importance of this is underscored by the rapid urbanization and encroachment which is underway in all directions.

SENSITIVE BIOLOGICAL RESOURCES

SENSITIVE VEGETATION

The wetland habitats, Diegan Sage Scrub, as well as intact clay lens system of the Annual Grassland are considered sensitive for various reasons.

Wetlands

The wetlands on Rancho San Miguel and off-site areas are not of the high quality usually associated with wetland habitats. This low diversity is due to the lack of long-term water sources and grazing damage. The highest quality wetlands occur in the off-site area. Urban run-off is the main reason for the relatively high quality of this habitat.

The ponds and associated channels are also important wetland sites due to their placement about the otherwise dry property.

Wild Man Canyon is an interesting wetland area with bedrock channels. Runoff from reclaimed water uses upstream are the principal source of water supply here.

Vernal pool wetlands have been identified on the mesa ridges adjacent to the northwestern portion of Rancho San Miguel. No such wetlands occur on Rancho San Miguel, however.

Clay Lenses

The clay lenses of the eastern Annual Grassland area contain several sensitive plants and are considered sensitive for this reason. This site has been disturbed by the Otay Water District reclaimed waterline and patrol road, but much of the habitat is still intact.

Clay lenses in the western portion of the site are too disturbed to warrant further consideration.

Diegan Phase of Inland Sage Scrub

The regional loss of coastal scrublands has resulted in concern for the long-term survival of Diegan Sage Scrub. The past fires on the Rancho San Miguel site have adversely affected the sage scrub vegetation. Sage scrub is not fire-adapted, lacking the resprouting shrubs of chaparral vegetation. Nonetheless, large tracts of sage scrub with noteworthy floral diversity occur on the property and are to be considered sensitive to land form alterations.

SENSITIVE PLANTS

The inventory of Rancho San Miguel revealed the presence of several plant taxa considered rare and/or endangered by local, state, or federal agencies (Figure 3).

California Adolphia (*Adolphia californica*)

LISTING:	CNPS List 2	R-E-D Code 1-2-1	State/Fed. Status -- None
	(California Native Plant Society, Smith and Berg 1988)		
DISTRIBUTION:	Coastal San Diego County; Baja California, Mexico		
HABITAT:	Chaparral, Diegan Sage Scrub, hillsides near creeks		
KNOWN SITES:	Still found at a variety of coastal San Diego County locales. Rarely, this spiny shrub is a dominant on hillsides and such sites should be protected. <i>Adolphia</i> should be considered for native revegetation projects in suitable habitat. Although not uncommon, a decade of continued urbanization along the coast will drastically reduce the populations now extant. Large populations occur on north-facing slopes of Penasquitos Canyon just south of the "mothballed" water treatment plant near Poway, and on south-facing slopes of Escondido Creek east of Lake Val Soreno. It has also been noted at more than 30 other sites.		
STATUS:	Declining; still healthy populations extant.		

A thriving population of this green-stemmed shrub was discovered on the knoll south of the Miguel Substation. The stand consists of several hundred plants. Minor stands occur scattered throughout the sage scrub habitats on the southwestern and northern portions of the northern parcel. *Adolphia californica* is distributed within western San Diego County and adjacent Baja California, Mexico, and is nowhere common. This species demonstrated strong adaptation to the dry climate of the region by having ephemeral leaves and photosynthetic stems. This plant is a very interesting component of the San Diego County flora and is in further need of study. This taxon is not considered rare, but rather of such limited distribution as to warrant attention to destructive activities within its range.

San Diego Sagewort (*Artemisia palmeri*)

LISTING:	CNPS List 2	R-E-D Code 2-2-1	State/Fed Status -- None
DISTRIBUTION:	Coastal San Diego County; Baja California, Mexico		
HABITAT:	Primarily found along creeks and drainages; rare in Diegan Sage Scrub		
KNOWN SITES:	Grows in canyon watercourses - seems to prefer shaded locations beneath a canopy of cottonwoods, sycamores, or willows. Occasionally found in more open areas at the fringe of Mule-fat dominated creeks. Peñasquitos Creek is typical of such habitat and has an extensive population from Poway to I-5. This shrub should be considered for introduction		

to native plantings in riparian habitats. Significant population found along Escondido Creek and its tributaries. Easternmost locale in creek just east of Glen Lonely.

STATUS: Declining and being heavily impacted by numerous local projects that channelize or disrupt minor drainages or via massive flood control efforts, such as the San Diego River/Mission Valley project.

A single population of this sagewort was located in a rocky outcrop on the western flank of San Miguel Mountain, just inside the Rancho San Miguel boundaries. This stand is anomalous in that it is not associated with a riparian habitat, as is the case with other populations of the species. As with *Adolphia*, *Artemisia palmeri* is distributed only in southwestern San Diego County and adjacent Baja California, Mexico.

San Diego Hasseanthus (*Dudleya variegata*)

LISTING: CNPS List 4 R-E-D Code 1-2-1 State/Fed. Status -- /C2

DISTRIBUTION: San Diego County, and Baja California

HABITAT: Openings in chaparral, rocky substrates in grasslands, near vernal pools, mima mound topography.

KNOWN SITES: A football field-sized plot with several thousand plants was graded in 1986 at a site south of Brown Field on La Media Road. This was the only heavy concentration known. Still found scattered across Otay Mesa, generally at the edges of the northern bluffs or near vernal pools. Small populations occur in Otay Valley, on Dictionary Hill, and at Miramar Mounds.

STATUS: Substantially declining. Cryptic nature of this species in fall and winter makes botanical surveys in possible habitat suspect during these seasons. Widespread grading on Otay Mesa (sometimes specifically designed to eliminate any biological constraints, but under the guise of agriculture) has recently eliminated vast tracts of habitat for this species. The land rush to take advantage of federal tax benefits bestowed on rezoned industrial parks adjacent to the Mexican border is the primary stimulus for this habitat loss.

This bulbous, ephemeral succulent has been found in the eastern clay lens area. It also occurs in clay soils of the SDG&E inholding and could be expected to occur, in wet years, in clay pockets of exposed bedrock.

San Diego Barrel Cactus (*Ferocactus viridescens*)

LISTING: CNPS List 2 R-E-D Code 1-3-1 State/Fed. Status -- /C2

DISTRIBUTION: Coastal San Diego County, Baja California, Mexico California

HABITAT: Diegan Sage Scrub hillsides, periphery of vernal pools

KNOWN SITES: Barrel Cactus occurs at many locales throughout the coastal region. It should be looked for particularly on hillsides with intact Diegan Sage Scrub; preferring sites near the crest of slopes. On Otay Mesa this cacti grows in Mima Mound habitat in association with vernal pools. Its highest densities are found in this area with particularly large populations northeast of Brown Field and the east end of Wruck Canyon. Other sites with substantial populations include the Naval Subbase at Point Loma and the northwestern slopes of Mother Miguel Mountain. Locales with over 100 individuals should be considered major sites.

STATUS: Substantially declining. Once very common along the coast, many small and mid-sized populations are routinely being impacted by grading for urban development.

This coastal barrel cactus is extremely abundant on south-facing exposures of the site. Because of its distribution in urbanized areas, and the desirability to cactus collectors, the numbers of this cactus are being severely reduced.

San Diego Marsh-Elder (*Iva hayesiana*)

LISTING: CNPS List 2 R-E-D Code 2-2-1 State/Fed. Status -- None
DISTRIBUTION: San Diego County, Baja California, Mexico
HABITAT: Creeks or intermittent streambeds
KNOWN SITES: The highest concentrations for this shrub occur in the Otay River from Salt Creek in the east, west to Beyer Boulevard. Found along intermittent streams around Lower Otay Lake. To be looked for in any drainage in the south county near the coast. Uncommon on Otay Mesa in Spring Canyon and other seasonal watercourses. Fairly common in drainages on Otay Mountain. A rather weedy shrub which could expand its range if introduced into coastal creeks where not presently found. Locally common along Penasquitos Creek from just east of I-15 west to I-5. Uncommon along Escondido Creek and its tributaries. Generally the farther north one goes the smaller and more localized the populations as on San Marcos Creek below the dam.
STATUS: Stable but potentially affected by modifications and degradation of wetlands.

This streamside shrub is frequent in drainages on the site, especially so in Wild Man Canyon. The plant is being used as a low-water use groundcover.

Cleveland's Golden Star (*Muilla clevelandii*)

LISTING: CNPS List 1B R-E-D Code 2-2-2 State/Fed. Status -- /C2
DISTRIBUTION: San Diego County, Baja California, Mexico
HABITAT: Valley grasslands, mima mound topography, vicinity of vernal pools
KNOWN SITES: Uncommon near vernal pools on Otay Mesa north of the Donovan Prison. Scattered at sites near the Miramar Mounds. Populations have undoubtedly declined substantially within the last two decades, along with the loss of vernal pool habitat. The base of the filaments should be carefully examined as *Bloomeria crocea* is superficially quite similar and much more common in the county. As a result, it may be that populations of *Muilla clevelandii* are being overlooked. Habitat of both is sometimes similar.
STATUS: Declining

This bulbous plant occurs in abundance in the eastern clay lens area. The plant is very rare now, due to coastal development, and this locale is considered a very important site within the plant's known distributional range.

Munz's Sage (*Salvia munzii*)

LISTING: CNPS List 2 R-E-D Code 2-2-1 State/Fed. Status -- None
DISTRIBUTION: Southern San Diego County, Baja California, Mexico
HABITAT: Chaparral, Diegan Sage Scrub
KNOWN SITES: The dominant shrub east of Upper Otay Lake growing in the many thousands. Locally common in the Jamul Mountains and the northwest slopes of San Miguel Mountain. Uncommon on Dictionary Hill; its northernmost known site. Also found on Otay Mountain.
STATUS: Stable. High concentration sites are endangered by residential development of the Otay Lakes area.

This blue-flowered sage reaches its northern distributional limit on the north flank of San Miguel Mountain and on nearby Dictionary Hill. The sage is a common component of the vegetation of Baja California. *Salvia munzii* was observed on the western flank of San Miguel Mountain as well as near the dry reservoir along Proctor Valley Road.

Ashy Spike-Moss (*Selaginella cinerascens*)

LISTING: CNPS List 4 R-E-D Code 1-2-1 State/Fed. Status -- None
DISTRIBUTION: San Diego, Orange counties; Baja California, Mexico
HABITAT: Undisturbed chaparral, Diegan Sage Scrub
KNOWN SITES: Ubiquitous at many sites in coastal San Diego County with populations heaviest around the periphery of the City of San Diego. Occurs by the ten of millions. A good indicator of site degradation as it rarely inhabits disturbed soils.
STATUS: Declining due to coastal urbanization. This species should be deleted from the CNPS listing, it is much too common.

This spike-moss is abundant on exposed soils. The species is endemic to southwestern San Diego County and adjacent Baja California, Mexico. Although the specimens observed were either dead or dormant, this moss, as well as many of the other cryptogams in the area, are rapidly restored by winter rains.

Otay Tarweed (*Hemizonia conjugens*)

LISTING: CNPS List 1B R-E-D Code 3-3-2 State/Fed. Status -- CE/C2
DISTRIBUTION: Southern San Diego County; Baja California, Mexico
HABITAT: Fractured clay soils in grasslands or lightly vegetated Diegan Sage Scrub
SITES: Most United States sites for this state endangered plant occur in the Chula Vista region. The population along the west side of Otay Lake Road, south of Bonita Road and a second fragmented population in Poggi Canyon are both substantial sites. More than ten thousand plants occurred at each location. The Otay Lakes Road site was heavily impacted by a "tract home" entrance road in 1989 cutting right through the population. An estimated 40% of the population has been destroyed here by the varied construction activities (i.e., road grading, pipeline installation, and fill slopes). In Poggi Canyon the population will be difficult to protect from nearby development even if placed into dedicated open space owing to its grassland habitat. A small population just north of Otay Valley Road is potentially threatened by a planned road widening. During spring 1990 a number of new sites were found. Extensive populations were seen scattered on slopes east of Horseshoe Bend near Proctor Valley Road. A number of other small but dense colonies noted along Proctor Valley Road included a site around an isolated utility facility at Gobbler's Knob and a second west of Upper Otay Reservoir in the northeastern quarter of Section 26. Also new reports from the southeastern flank of San Miguel Mountain and northern Otay Mesa.

Two collections for Baja California found at the herbarium for the San Diego Museum of Natural History; at 32° 26' North where collected by Moran (97795 SDMNH) on a barren north slope 3km south of La Presa. Also collected on the south side of Guadalupe Valley.

STATUS: Substantially declining; all sites endangered. It is strongly recommended the state of California take stronger action to protect this species from urban pressures. This species should be given consideration for listing as federally-listed Endangered; current status as State Endangered has failed to protect this species. Sympatric presence of the closely related *Hemizonia paniculata* within the very limited range of *Hemizonia conjugens* is considered unlikely despite old reports which place the latter at nearby locales (Paradise Valley, 2 miles east of San Ysidro, Spring Valley, and Telegraph Canyon). More taxonomic work is needed. *H. paniculata* is abundant in western Riverside County where it grows in various soils in xeric sage scrub. It is uncommon in northern San Diego County south to near Barham Road in San Marcos. *H. conjugens* is restricted to cracking clay soils generally devoid of woody shrubs. It often grows interdigitated but not sympatrically with *Hemizonia fasciculata*, the common tarweed of the region, at locales where "fingers" of clay intrude into loams.

The summer-flowering annual was not detected during past surveys due to drought conditions, similarity with Common Tarplant and possible grazing of the plants by livestock. The 1990 and 1991 spring seasons were sufficient rainfall to bring forth a substantial stand of the plant which was previously known from the Rancho Grande Road area, west of the site.

On-site the plant occurs in scattered patches on the southern edge of the site as well as about the ranch house in the northern sector. Due to the ephemeral nature of the plant and its year-to-year change in population numbers, the significance of the Rancho San Miguel population is not readily assessed. It is quite possible that the plant is widespread in clay areas about the base of San Miguel, Jamul, and Otay Mountain.

SENSITIVE PLANTS KNOWN FROM THE REGION BUT NOT OBSERVED ON-SITE

Due to the proximity of Rancho San Miguel to San Miguel Mountain and adjacent coastal mesas, the presence of several other rare and/or endangered plant taxa on the site is possible. Also, due to the sub-normal rainfall of the previous season, other rare/or endangered taxa are to be expected on the site, especially those of an annual or herbaceous perennial nature. The following are those which might still be expected on the site:

Acanthomintha ilicifolia
Astragalus deanei

Fritillaria biflora
Ophioglossum californicum

Several other sensitive plants are known from the area but are not expected on the Rancho San Miguel site due to inappropriate habitat conditions:

Ambrosia chenopodiifolia
Calamintha chandleri
Calochortus dunnii
Chamaebatia australis

Eryngium aristulatum ssp. *parishii*
Navarretia fossalis
Opuntia parryi var. *serpentina*

SENSITIVE VERTEBRATES

Thirteen species of sensitive vertebrates were observed, detected, or are expected to occur on the Rancho San Miguel site (Table 4).

San Diego Horned Lizard (*Phrynosoma coronatum blainvilliei*)

LISTING: CDFG (1990b) - Species of Special Concern
CDFG (1991a) - Fully Protected
SDHS (1980) - Endangered
SDNGWS (1976) - Species of Local Concern
Ashton (1976) - Threatened
Bury (1971) - Proposed for classification as protected
Stewart (1971) - Depleted
CITES (1976) - Category II
IUCN (1979) - Depleted

DISTRIBUTION: California and Baja California, Mexico

HABITAT: Open scrubland and pine/oak woodland

STATUS: Depleted due to pet collection and habitat destruction.

This unique lizard was observed on the site in Coastal Scrub in the northwestern portion of the site, but would be expected to occur throughout much of the property. Horned lizards have highly specialized diets, feeding almost exclusively on various species of large ants. They typically have low population densities, even in areas of optimal habitat (Pianka and Parker 1975). Therefore, large tracts of land such as the project site are important in maintaining populations of these lizards. This lizard occurs in areas of open coastal sage and chaparral where there is bare ground for sun basking and their ant prey is common. Especially good habitat for these lizards on the site are located in areas in the open scrub habitats on the lower slopes and in other relatively level areas.

Orangethroat Whiptail (*Cnemidophorus hyperythrus beldingi*)

- LISTING:** USFWS (1986, 1989) - Category II
 CDFG (1990b) - Species of Special Concern
 SDHS (1980) - Threatened
 SDNGWS (1976) - Species of Local Concern
 CITES (1976) - Category II
 IUCN (1979) - Rare
- DISTRIBUTION:** Limited; found from southern Orange County, western Riverside and San Diego counties south to southern Baja California, Mexico.
- HABITAT:** Open scrubland with an abundance of termite colonies, the primary food of these lizards.
- STATUS:** Limited distribution; found only in western San Diego County and Baja California, Mexico.

This species does not appear to be common on the site despite the apparent highly suitable conditions exhibited by among the open scrublands. The cause of this near absence is not known. Whiptails feed almost exclusively on termites, and possibly some factor is at work affecting prey availability. Orangethroat Whiptails are quite common in similar habitats in nearby Poggi Canyon (Eric R. Lichtwardt, pers. comm.).

Two-striped Garter Snake (*Thamnophis hammondi*)

- LISTING:** CDFG (1977, 1988, 1989) - Sensitive
 IUCN (1979) - Depleted
 SDHS (1980) - Threatened
 CITES (1976)
 Ashton (1976) - Threatened
 Bury (1971) - Proposed for classification as protected/listed reptile
 Stewart (1971) - Depleted
- DISTRIBUTION:** Coastal California and northwest Baja California, Mexico
- HABITAT:** Along creeks and rivers
- STATUS:** Once common in Southern California; at present, appears to be declining due to habitat disturbance.

This snake was seen in an old well located in the bottom of one of the larger canyons in the northern area of the site. This snake has been recorded on nearby peaks as well as along the Sweetwater River bed (Klauber, field notes). This snake's primary habitat is in riparian zones such as along the Sweetwater River; the majority of the site is not expected to be significant habitat for the species.

Turkey Vulture (*Cathartes aura*)

LISTING: Everett (1979a) - Declining, Sensitive
DISTRIBUTION: Wide-spread in United States and Mexico
HABITAT: Dry, open country, woodlands, and agricultural lands
STATUS: Common migrant, rare summer resident. Breeding population has declined significantly due to habitat destruction, and ingestion of poisoned carcasses set out for coyotes.

The Turkey Vulture forages widely over the site and may nest on nearby peaks.

Cooper's Hawk (*Accipiter cooperii*)

LISTING: CDFG (1990b) - Species of Special Concern
 Audubon Blue List (Tate 1986)
DISTRIBUTION: Throughout the United States
HABITAT: Open woodlands and wood margins
STATUS: This hawk has declined throughout California as a breeding species. Remsen (1980) identified habitat destruction in lowland riparian areas as the main threat, as well as direct or indirect human disturbance at nest sites.

Cooper's Hawks are frequently observed foraging over the site and may nest in the riparian woodland along the Sweetwater River (Unitt 1984). They have also been found nesting in Proctor Valley to the east of the site (S.J. Montgomery, pers. com.). As noted above, this is primarily a woodland species but would be expected to occasionally foraging on-site.

Ferruginous Hawk (*Buteo regalis*)

LISTING: USFWS (1986, 1989) - Category II
 CDFG (1990b) - Species of Special Concern
 SDNGWS (1976) - Species of Local Concern
 Audubon (Tate 1986) - Special concern bird species
DISTRIBUTION: Western United States
HABITAT: Open country
STATUS: Uncommon but regular visitor to mountain areas and coastal fields.

Expected to occur during the winter months, this species has been recorded on many San Diego Christmas bird counts, and the area covered in this count includes the southern and western edges of the project site. This hawk would be expected most frequently in the barren grassland on the southern portion of the site.

Golden Eagle (*Aquila chrysaetos*)

LISTING: Bald Eagle Act (1940)
 CDFG (1991a) - Fully Protected
 CDFG (1990b) - Species of Special Concern
 SDNGWS (1976) - Species of Local Concern
 CITES (1976) - Priority II
DISTRIBUTION: Throughout western United States and southern Canada. Uncommon resident through most of southern California.
HABITAT: Mountains, deserts, open country.
STATUS: Population declining in nearly all areas of county; once a common breeding bird.

This large raptor has been observed on most visits to the property. In the past they have nested on-site on San Miguel Mountain and in large Eucalyptus trees immediately adjacent to the site (Figure 4). These

eucalyptus sites may no longer be in use due to the nearby and relatively recent water facility built just east of the property boundary.

Golden Eagles utilize a home range of from 20 to 60 square miles in California with an average of about 30 square miles. Large tracts of open land need to be maintained on the coastal slope if populations of these raptors are to persist.

Peregrine Falcon (*Falco peregrinus*)

- LISTING:** USFWS (1986, 1989) - Endangered
 CDFG (1977, 1988, 1989, 1990a, 1991b) - Endangered
 CDFG (1991a) - Fully Protected
- DISTRIBUTION:** Forages over estuaries, sea coasts, mountains, and coastal scrub in California.
- HABITAT:** Nests on cliff faces and sometimes buildings or bridges.
- STATUS:** This falcon has declined as a breeder in California due largely to the use of DDT.

Since DDT has been banned their number have increased to about 82 breeding pairs in California (Cade 1982). Peregrines are probably not infrequent on the site as migrants, and the observed foraging peregrine was most likely passing through on migration. However, a pair of Peregrines has recently nested under the Coronado Bridge and may forage as far east as the site. Peregrine Falcons are often associated with bodies of water and the presence of Sweetwater Reservoir may attract them to the site.

Prairie Falcon (*Falco mexicanus*)

- LISTING:** CDFG (1990b) - Species of Special Concern
 SDNGWS (1976) - Species of Local Concern
 CITES (1976) - Priority II
- DISTRIBUTION:** Western United States
- HABITAT:** Open country, deserts, interior valleys
- STATUS:** Rare breeder in county; coastal population nearly extirpated.

This large falcon has been observed flying over the site and is expected to be fairly regular during the winter months. A small number of Prairie Falcons winter in coastal San Diego County on large tracts of open land such as Otay Mesa, Rancho Miguel, and Proctor Valley. In these areas, they feed largely on ground squirrels and birds such as Western Meadowlarks and Mourning Doves, both of which are abundant on the site. During the winter, Prairie Falcon territories are linear, extending along telephone or transmission lines for approximately 6 miles (Root 1988). The southern open grassland could therefore probably only support one or, at most, two individuals.

Burrowing Owl (*Athene cunicularia*)

- LISTING:** CDFG (1990b) - Species of Special Concern
- DISTRIBUTION:** Western United States
- HABITAT:** Open plains, grasslands, fields
- STATUS:** Declining due to conversion of grasslands and pasturelands to agriculture and urban development.

Several individuals of these small terrestrial owls were seen in Coastal Scrub habitat. These owls may nest on the site in low numbers; however, no burrows were located in the areas of the sightings. This suggests the observed individuals may have been transients to the site.

California Gnatcatcher (*Polioptila californica*)

LISTING: USFWS (1986, 1989) - Category II
 CDFG (1990b) - Species of Special Concern
 Everett (1979a) - Declining

DISTRIBUTION: San Diego County, Riverside County, and Orange County; Baja California, Mexico.

HABITAT: Diegan and Riversidean Sage Scrub. Also occurs in Maritime Succulent Scrub.

STATUS: Seriously declining due to loss of habitat. It has already been extirpated from Ventura, San Bernardino and most of Los Angeles counties. This bird is non-migratory. The United States population is currently estimated to be between 1,200 and 2,000 pairs (Atwood 1990). The California subspecies (*P. c. californicus*) has a very narrow coastal range in Baja California, Mexico from the United States border south to the vicinity of El Rosario. San Diego County appears to be the center of abundance within the United States for this species. Petitioned in September 1990 for Federal Endangered Species status.

The Coastal Scrub on the Rancho San Miguel site and immediately surrounding lands sustains one of the largest populations of gnatcatchers left in the United States, in excess of 75 pairs. Additional pairs may be expected to occur on-site in the event vegetation recovery is allowed to continue from the historic fire and grazing disturbance.

The California Gnatcatcher is endemic to Baja California, Mexico and extreme southwestern California. Within its United States range this bird is almost completely restricted to sage scrub habitats. This species remains paired throughout the year and is a nonmigratory, resident bird with a high site tenacity. The California Gnatcatcher is a bird of special concern because vast areas of their habitat within their United States range has been converted to urban developments. Currently, the California Gnatcatcher is a candidate for Emergency Listing as an Endangered Species by the U.S. Fish and Wildlife Service. Formerly, this species ranged northward to the vicinity of the Santa Clara River in Ventura County and the northern San Fernando Valley, Los Angeles County (Grinnell and Miller 1984; Garrett and Dunn 1981).

However, at present, north of Orange County the species is known only from the Palos Verdes Peninsula in Los Angeles County. The largest populations within the United States occur in coastal San Diego County and western Riverside County. As noted above, in San Diego County alone approximately 72% of the Coastal Scrub has been eliminated (Tom A. Oberbauer, pers. comm., 1989). The present situation of rapid coastal development makes large tracts of wildland supporting Coastal Scrub extremely important if the California Gnatcatcher is to remain a member of the United States biota.

To date, home range size, habitat requirements, juvenile dispersal and population dynamics of this species have not been well documented. A color-banding and monitoring study was instigated during 1989. The banding study area boundary is shown on Figure 4. Seventeen adults and 17 nestlings from 7 separate territories were banded for a total of 34 individual gnatcatchers. Random and systematic observation schedules were used to determine the behavior and movements at nesting sites of banded individuals. Nest locations were plotted on a 1" = 200' aerial topographic map presented in the April 1989 Status Report (PSBS 1989).

Home range movements were quite variable and dynamic from month to month and from one territory to another. Home range estimates for the breeding season range widely from 7 to 20 acres in extent with signs of territorial expansion and shifts as the summer dry season progressed. Juvenile dispersal patterns and survivorship were unclear due to the very low number of observations made after the fledglings became independent of the parents. Double-clutching as well as re-nesting attempts were observed and the earliest (21 March 1989) and latest (7 July 1989) recorded egg dates for this species were documented during the study. An even later egg date was recorded on 19 July 1991 during a joint site visit by PSBS and Sweetwater Environmental Biologists staff. These dates extended the known egg dates as reported by Unitt (1984) by several weeks.

Over the course of these investigations the dynamic nature of the on-site California Gnatcatcher population becomes more apparent. The number of pairs which inhabit the site and/or its immediately surrounding lands is believed to lie between 75 and 90 pairs, as evidenced by the following observations. Seventy-two locales were regularly found to support paired birds. Although a specific pair may exist for a limited time, evidenced by the eventual absence of banded birds, these general territories remained occupied during most field visits. Other specific areas were seen to support gnatcatchers for periods of time, and later appeared to be uninhabited. These additional distinct and confirmed pairs were found in 14 other localities, and did not show any apparent overlap with other gnatcatchers known from peripheral areas. Because these birds were noted during the breeding season, they cannot be considered transients or dispersing juveniles. Also, black-capped, but apparently unpaired, male gnatcatchers were occasionally observed in areas of marginally suited habitat, and it was not determined whether such localities supported a true territory and a nesting pair. Also of high importance to the on-site California Gnatcatcher population, much of the sage scrub continues to be in a state of recovery from historic fires which has been retarded by several years of drought. There is high potential for this land to support additional California Gnatcatchers provided that the Coastal Sagebrush and other scrub plants attain a more developed profile. This is recently evidenced by an area of low to moderate quality which had not previously been found to support birds, but did support a breeding pair during the spring of 1991.

The puzzling nature for some of these pairs is further illustrated by a male/female pair and their four fledglings, all of which were banded with unique color-band combinations. Despite thorough and distant surveys, none of these individuals were re-located after approximately one week post-fledging.

Regionally, California Gnatcatchers are more typically limited to comparatively small, isolated fragments of Coastal Scrub throughout their range in coastal San Diego County. However, the future of these small populations is precarious due to high extinction rates that are inherent in small, isolated populations. Studies in the coastal urban areas of the county have shown that California Gnatcatchers and San Diego Cactus Wrens appear to be among the first species to become extirpated when their habitats are fragmented into isolated patches (Soulé *et al.* 1988). Deleterious edge effect and fragmentation caused by roads and residential development in such areas can make some species not only more vulnerable to local extinction, but further block the ability for natural recolonization from adjacent source populations.

One of the major impacts of fragmentation of habitat by suburban areas is harassment and wildlife habitat degradation by dogs and increased human activity. Domestic cats have also been found to be major predators in suburban residential areas. One study estimated that domestic cats in Britain account for over 70 million deaths to small vertebrates annually (Churcher and Lawton 1989). Thirty to fifty percent of these mortalities are birds. Researchers have estimated that 30% of sparrow deaths in an English village are due to domestic cat predation. Clearly, this is one adverse effect of residential development that could have a significant impact on California Gnatcatchers.

The value of large tracts of habitat, such as Rancho San Miguel, to Coastal Scrub birds is that they raise the long-term survival rate for many species by being less susceptible to harmful stochastic events, such as fires, disease, and fluctuations in predation pressures. Further, by virtue of size and habitat diversity, these areas are buffered against the impacts of successional habitat dynamics and genetic homozygosity. That is, large stands of habitat can withstand minor perturbations and still sustain a population large, healthy, and diverse enough to insure the long-term survival of the species in the area.

San Diego Cactus Wren (*Campylorhynchus brunneicapillus sandiegensis*)

LISTING: CDFG (1990b) - Species of Special Concern
DISTRIBUTION: Scattered populations occur from Ventura County south to northwest Baja California, Mexico. The largest populations are currently found in San Diego County.
HABITAT: Patches of Prickly Pear or Cholla cactus in coastal scrub habitat.
STATUS: This subspecies is one of the most endangered birds in California, large areas of its limited habitat has been lost to urban development and it continues to decline.

There are approximately 11 pairs of San Diego Cactus Wrens present on or immediately adjacent to the site, and possibly more as indicated by the distribution of old nests and suitable habitat. Limited amounts of additional areas may support this wren in the future, and the presence of old (inactive) nests indicates the population may have historically been somewhat more widespread. The limiting factor appears to be the availability of moderate-or-better developed cactus stands, although several areas may reach a point of suitability in the next few years.

The localities where San Diego Cactus Wrens were sighted are plotted on Figure 4. Presence of individual nests was not utilized as an indicator of bird abundance, since this species often maintains several nests and un-maintained nests were quite common on-site.

These birds are found around patches of Prickly Pear and Cholla in Coastal Scrub habitat. This unique subspecies was recently described (Rea and Weaver 1990) and represents one of the most endangered birds in California. Large areas of its limited habitat have been lost to urban development and the subspecies continues to decline. Current estimates of San Diego Cactus Wren population place the total number at approximately 300 pairs (Rea and Weaver 1990). The majority of the population, approximately 200 pairs, occurs within San Diego County.

Grasshopper Sparrow (*Ammodramus savannarum*)

- LISTING:** SDNGWS (1976)
Audubon Blue List (Tate 1986)
Everett (1979a)
- DISTRIBUTION:** North American, Central America and parts of South America in grasslands.
- HABITAT:** Grasslands with scattered shrubs.
- STATUS:** Uncommon breeding species with highly localized population.

The project site supports a good breeding population of this species in the annual grasslands and open scrublands mixed with grasses (Figure 4). These sparrows are migratory; however, their status in Southern California during the winter months is unclear because they are apparently secretive during this time.

EXPECTED BIOLOGICAL IMPACTS

The proposed development known as Rancho San Miguel would involve development of residential areas with associated road, utility, and park facilities construction. Some of the facilities would be constructed off-site and affect resources in those areas to various degrees. The preceding report of the biological resources on the site addresses several of these resources that will be impacted. The impact to these resources is detailed below insofar as information is available.

Impacts to the wildlife of the area can be discussed in terms of: (1) Loss of Wildlife Habitat; (2) Fragmentation of Wildlife Habitat; and (3) Habitat Degradation/Human Associated Disturbance Effects.

The following habitat and species impact accounts should be considered in these terms in order to predict more closely the actual effect the proposed development will have on the area. For example, the loss of a certain acreage or percentage of habitat may not only mean the loss of the individuals present in these areas, but may also reduce the productivity of the surrounding populations because of increased competition for resources resulting from supersaturated densities of resident as well as displaced individuals.

It may also be appreciated on tracts of land as large as Rancho San Miguel, that for a given acreage of impact, the placement of development is important in terms of how it may fragment the remaining portions of habitat (i.e., two 50-acre easements do not necessarily equal one 100-acre easement in terms of the ecological integrity of the habitat). Large stretches of contiguous habitat types are necessary for the long-term survival of many species because they allow the unrestricted movement of wildlife to and from resources (water, cover, forage, etc.). There reaches a point at which an area is simply too small to adequately support an entire functioning ecosystem, and eventually the loss of wide-ranging vertebrates and predators at the top of the food chain leads to major imbalances in the trophic community (Terborgh 1988). The retention of a contiguous area approximately 1,450 acres in size, as proposed for open space by the proposed project, provides a unique opportunity not normally afforded residential development projects to maintain representative wildlife populations on a project site.

In addition to the immediate and direct impacts of grading upon habitat and animal loss, a high concern is the long-range impact resulting from human-associated disturbances. Such impacts involve habitat degradation due to increased vehicle traffic and noise (cars, bikes, off-road vehicles), and also the predation and harassment of wildlife by domestic cats, dogs, and humans as well.

HABITATS

Annual Grassland

Most of the annual grasslands on the property will be destroyed by proposed development. These areas are principal components of raptor foraging habitat, in-as-much as they provide open areas where raptors can locate and successfully hunt their prey. Twelve species of raptors forage on the site, and several of these nest on the site. Rancho San Miguel is important to all of these birds of prey because it provides such foraging lands adjacent to other habitat requirements of raptors, namely nesting and roosting/perching areas, as well as areas

of cover for prey species to find refuge. The raptor most affected by the development is the Golden Eagle (see the individual species discussion below).

Wetlands

Impact to wetlands are due principally to road crossings. The relatively minor extent of the intermittent or ephemeral streams on the site and in the off-site area to the west precludes any major impacts to these wetland systems. Nonetheless, due to the limited extent of wetlands in the region, any loss of wetlands is considered to be significant. The project has several sites where compensating acreage is available to replace in-kind or better wetland habitat, such as along the western, off-site road and along Wild Man Canyon Creek near the western entrance to the site. The extent of the aggregate acreage involved with these areas is not known at this time, so the need for a Corps of Engineers 404 permit is not certain. No alteration of the agricultural ponds on the property are planned as part of the development project.

Diegan Phase of Inland Sage Scrub

The property represents a major block of Inland Sage Scrub in the Chula Vista Sphere of Influence. The proposed development will involve the loss of about 20 to 25 percent of the Inland Sage Scrub habitat on the site. This figure is somewhat deceptive since the development in the northern area will involve meandering roads and many small house sites, surrounded by sage scrub. However, because of fuel reduction requirements, it is likely that the actual loss of Inland Sage Scrub habitat will be in the magnitude of 35%. In addition, not all of the sage scrub on the site is of high quality. The northeastern perimeter of the property, for instance, is not California Gnatcatcher habitat. The percentage of sage scrub which is presently occupiable gnatcatcher habitat which will be impacted by development is much higher, on the order of 40%-50%.

Clay Lenses

The sensitive clay lens at the northeastern portion of the site is not involved with any aspects of the project and will receive no impact from the project.

BOTANICAL RESOURCES

Cleveland's Golden-star (*Muilla clevelandii*)

This plant is associated with the clay lenses in the northeastern portion of the site and will not be impacted by the project.

San Diego Hasseanthus (*Dudleya variegata*)

This plant is associated with the clay lenses in the northeastern portion of the site, therefore this population will remain unaffected by the project. The presence of plants in the San Diego Gas and Electric area,

however, suggests that additional plants may occur on the Exchequer and Friant soils elsewhere on the site. A field survey following a sufficiently wet season would be needed to resolve this impact assessment.

San Diego Marsh-Elder (*Iva hayesiana*)

This shrub occurs in the drainages on the property and will be affected only where streambed crossings occur.

Coast Barrel Cactus (*Ferocactus viridescens*)

The Coast Barrel Cactus occurs widely on the site, particularly on the northwestern and southeastern quarters. It is not present in the sedimentary strata in the southwestern area. The impact to this species is expected to be in the order of 35%. Transplantation of the cactus should be considered only as horticultural salvage, not as mitigation, since the cactus habitat cannot be reconstructed.

Otay Tarplant (*Hemizonia conjugens*)

This annual occurs in the southwestern portions of the site as well as near the ranch house. Past, intense grazing has severely reduced the quality of the habitat for this plant. The plant also needs a good wet season to develop substantial population sizes. Expected impacts are in the realm of 80%.

Pygmy Spike-moss (*Selaginella bigelovii*)

This plant is common on the open soils and rock outcrops about the site. The impact to this plant is expected to be about a 15% loss.

Munz's Sage (*Salvia munzii*)

This low rarity plant occurs at the south end of the site where proposed development will probably eliminate it, and at the northern portion, in a area planned as open space.

San Diego Sunflower (*Viguiera laciniata*)

This shrub is very common on the site and the expected loss is about 15%.

ZOOLOGICAL RESOURCES

California Gnatcatcher (*Poliopitila californica*)

The site is occupied, either totally or peripherally, by approximately 81 pairs of California Gnatcatchers. The proposed development will likely involve the direct loss of about 41 of these pairs as a result of habitat destruction. Secondary losses of gnatcatchers in peripheral areas is more difficult to assess due to the unknown level of effects caused by predation by domestic cats and other human-associated factors. An increase in fire frequency from such activities as children playing with matches in sage scrub open space may also result in a long term loss of habitat. Approximately 16 other pairs lie in areas peripheral to the residential development or in

areas proposed for construction of urban run-off control basins and ditches, thus 57 pairs may be lost due to the development. The remaining 24 pairs appear to be located in areas relatively distant from the expected disturbance.

Some habitat on the site has been burned, especially in the northeastern corner. This area may eventually grow to sufficient stature to support additional birds, especially if supplemented by seeding with California Sagebrush. Field work on the biology of the bird on the Rancho San Miguel property has shown that banded fledgling birds range widely about the site and could possibly move to adjacent habitats should they become suitable in the future.

The present project proposal will have a significant impact on one of the larger known populations of California Gnatcatchers in the United States. Large areas of undeveloped Coastal Sage Scrub land have become increasingly limited in Southern California, especially within the last decade, and large areas need to be kept intact in preserve-type status if the species (and indeed the entire ecosystem) is to be saved from extirpation. Although there is a significant impact to the gnatcatcher as a result of the proposed project, it is less than would be anticipated from a more conventional cut/fill type project which would eliminate up to 90% of the intervening natural areas.

San Diego Cactus Wren (*Campylorhynchus brunneicapillus sandiegense*)

Eleven pairs of the San Diego Cactus Wren are believed to occur on-site or immediately adjacent areas; however, the current number may range between 8 and 13. This discrepancy is caused by the fact that Cactus Wrens utilize multiple nests within a territory, and without the benefit of banded individuals there may be some overlap of presumed territories. Five of these 11 birds' nesting sites would be lost by habitat destruction. Four of these 11 pairs exist in areas in peripheral areas to development, and may be impacted by secondary effects (i.e., cats, fire, shooting) of development. Two pairs occur in an area in open space areas well away from expected disturbance.

Because this bird is uniquely associated with large colonies of the Coast Cholla, no significant recovery of lost habitat can be expected. Transplantation of the mature cactus has been proposed as a conservation measure in other development projects but the direct benefits of such an action have yet to be demonstrated. Moving the cactus is technically difficult because the large limbs break off at the slightest bump and regrowth takes about 40 years; this would pose serious problems for wrens in that such limbs serve to support the nests of this sensitive bird. It is therefore highly plausible that the remaining Cactus Wrens would not continue to

reproduce on-site due to their small numbers and isolation from other pairs. They may eventually be extirpated from areas about the proposed development.

Golden Eagle (*Aquila chrysaetos*)

Any development on the site will likely impede the breeding-nesting activity of Golden Eagles which occur on the property, even though their breeding area is far removed from proposed development areas and within permanent open space. Although known to have nested about the site in recent years, it is doubtful that they will continue to breed in the area should development proceed. Golden Eagles are very sensitive to human presence and require large tracts of land over which to forage. The recent human activity in the vicinity of the Otay Municipal Water District's wastewater reclamation facility along with associated development of agriculture to grassed lands in the area may have already impacted the reproductive success of these predators. The eagles will likely leave the area entirely if development proceeds.

San Diego Horned Lizard (*Phrynosoma coronatum blainvilliei*)

Habitat loss of this animal is difficult to assess since few sightings were made. Prime habitat occurs in the northwestern and southeastern portions of the site. An estimate of habitat loss is correlated to sage scrub habitat loss, so 30% loss to this species is a best estimate at this time. The increased presence of humans will also result in more taking of these animals as pets.

Orangethroat Whiptail (*Cnemidophorus hyperythrus*)

The impact to this animal is similar in magnitude to that of the San Diego Horned Lizard discussed above.

Two-striped Garter Snake (*Thamnophis hammondi*)

No direct impacts to this animal are expected from the project but secondary effects of pet predation and collecting will reduce the population in the region by an unknown degree.

Larger Mammals

Deer, Bobcat, Coyote, fox and possibly Mountain Lion activity on Rancho San Miguel will be impacted significantly under the proposed project plans.

Movement of deer and other large mammals to and from the reservoir and adjacent lands for food and water resources to secluded grassy benches, canyons, and up the slopes of Mother Miguel Mountain will be reduced to an unknown but lower level of activity. The present movement corridors on Rancho San Miguel will be obstructed by roads, horse trails, and increased human/animal activity in the residential areas on the lower slopes. These large mammalian species forage over the entire site and preservation of only small, narrow

corridors will not allow for the continued preserve of the same numbers of animals. It is estimated that the population levels of these animals could, in some cases, be reduced to half, and some more sensitive animals could be extirpated altogether.

RECOMMENDATIONS TO REDUCE BIOLOGICAL IMPACTS

Several activities which will enhance or retain botanical or wildlife resources on or near the site are to be considered as part of the project. In some cases they may not reduce the adverse impact to a particular resource below a level of significance; however, they will reduce the magnitude of secondary impacts or result in long-term preservation of habitats elsewhere on the property.

WATER BODIES

Several ponds occur on the site. These are ephemeral in nature, usually drying in the summer. Maintenance of these and additional ponds for wildlife would enhance the carrying capacity. This provision of dependable water would also compensate for reduction in wildlife movement to the Sweetwater Lake shoreline.

ROAD CROSSINGS

The crossing of canyons and gullies by roadways should involve over-sized culverts (i.e., 8 to 10 feet in diameter) or bridges so that wildlife would not be hindered in movement along these corridor features.

DIVERSION FENCING

Along highly travelled roads near identified wildlife corridors, fencing should be placed to direct wildlife into designated crossings. This will reduce the number of road kills generally associated with high speed or high traffic roadways.

FUEL REDUCTION

The area proposed for development on the Rancho San Miguel site is not particularly high in fuel loading due to past fires and the relatively low wood content in Inland Sage Scrub vegetation. Nonetheless, fuel reductions will be required about structures. Generally a 100 feet distance can be assumed. Clearing of vegetation should be selective and done manually, so that the soil surface is not disturbed and that regrowth of more herbaceous material can occur. A clearing cycle of 5 years should be considered routine. It would be less frequent in dry years and more frequent in intervening wet years.

The design of structures should also consider fire safety in that no wooded features should be exposed to slopes which have brush, especially chaparral cover. This condition is expected to occur only about the small western hill, west of Mother Miguel Mountain.

VEGETATION ENHANCEMENT

The northeastern portion of the site has a sage scrub vegetation that is apparently now not utilized by California Gnatcatchers. It is probable that, with time, the vegetation would reach sufficient stature to support nesting. The lacking component appears to be California Sagebrush (*Artemisia californica*), which may have been eliminated or seriously depleted by the frequent fires in the past. A program of seeding augmentation would assist in restoring this vegetation to a more suitable habitat for expansion of the California Gnatcatcher population on the property.

SLOPE RESTORATION

The several cut and fill slopes of the site should be considered for use with native sage scrub vegetation elements for revegetation, rather than the usual exotic species. In this manner these sloped areas would eventually be restored to the native plant cover of the site. When grading does occur in areas with sufficient top soil, such material should be salvaged in a separate pile at each grading site. This organic material would then be available to reuse on the slopes which would be unconsolidated geological sediments or exposed rock. Too frequently such material is wasted by placing in the bottom of a canyon fill.

OPEN SPACE AREA PROTECTION

Random access into open space areas is very damaging in several ways. One principal impact is random trails themselves and the other is too frequent access. The open space perimeter about residential areas should be fenced and gated at appropriate entry sites. This fencing must be done carefully to reduce impact to mammalian movement across the site. Already a system of trails is proposed for the open space areas, so the issue of random trails can be resolved if use of the open space trails is properly monitored.

WETLAND ENHANCEMENT

The limited impact to wetlands associated with the project should be mitigated in separate areas, rather than consolidating such restoration into one large area. This is generally contrary to the usual concept of creating large blocks of habitat. The value of scattered and functional wetlands, possibly in associated with ponds about the site, is in maintaining several oasis-type areas about the property. This is because no large wetland

or riparian system occurs on-site and the Sweetwater River riparian woodland is not contiguous with the property.

BROWN-HEADED COWBIRD HABITAT CREATION

Although Least Bell's Vireo is not a resource associated with the project, the presence of open field, especially those disturbed by horses that are corralled, can lure the parasitic Brown-headed Cowbird into areas near known Least Bell's Vireo nesting habitat. Brown-headed Cowbirds also parasitize California Gnatcatcher nests (E. Lichtwardt, D. Mayer, pers. comm.) and the creation of cowbird foraging areas could have a major affect on the breeding success of this species on the site. Management of the open space should consider placement of horse use sites away from the vireo or gnatcatcher habitat or, if they must be placed in the northeastern portion of the site, then a program of trapping for the cowbird should be part of the open space management. This would actually amount to providing sites for the large walk-in cages which would be monitored by contractors or employees of the U.S. Fish and Wildlife Service or California Department of Fish and Game.

SWEETWATER RESERVOIR PROTECTION

The lure of the large lake at the reservoir must be considered due to the important, regionally significant wildlife habitat (and fishery) now there. Rumors of poaching on the large fish in the reservoir are common and with more people residing along the property adjoining the reservoir, this popular predation pressure will increase. Fencing may be necessary to protect the reservoir from poaching. This fencing would have to be carefully placed so that movement of larger mammals is hindered as little as possible.

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TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE.

HABITAT: C = Chaparral
F = Freshwater Marsh

D = Diegan Sage Scrub
G = Annual Grassland

HABITAT

CRYPTOGAMS

FERNS

Adiantaceae

- Cheilanthes clevelandii* D.C. Eaton. Cleveland's Lipfern C
Cheilanthes newberryi (D.C. Eaton) Domin. Cotton Fern C
Pellaea andromedifolia (Kaulf.) Fee. Coffee Fern C
Pellaea mucronata (D.C. Eaton) D.C. Eaton. Bird's Foot Cliff-Brake C
Pityrogramma triangularis (Kaulf.) Maxon var. *triangularis*. CA Goldenback Fern D
Pityrogramma triangularis var. *viscosa* (Nutt. ex D.C. Eaton) Weath. Silverback Fern C

Aspidiaceae

- Dryopteris arguta* (Kaulf.) Watt. Coastal Woodfern C

Marsileaceae

- Marsilea vestita* Hook. & Grev. F

Salvinaceae

- Azolla filiculoides* Lam. Pacific Mosquitofern F

Selaginellaceae

- Selaginella bigelovii* Underw. Spike-Moss C,D
Selaginella cinerascens A.A. Eat. Mesa Spike-Moss C,D

DICOTYLEDONS

Adoxaceae - Adoxus Family

- Sambucus mexicana* Presl ex D.C. Desert Elderberry D

Aizoaceae - Carpet-weed Family

- * *Glinus lotoides* L. F
 * *Mesembryanthemum crystallinum* L. Crystal Ice Plant G
 * *Mesembryanthemum nodiflorum* L. Little Ice Plant G
Sesuvium verrucosum Raf. Sea Purslane F

Amaranthaceae - Amaranth Family

- Amaranthus albus* L. Tumbleweed G
 * *Amaranthus blitoides* S. Wats. G
Amaranthus hybridus Wats. G

Anacardiaceae - Sumac Family

- Malosma laurina* (Nutt.) Nutt. ex Abrams. Laurel-Leaf Sumac D,C
Rhus integrifolia (Nutt.) Benth. & Hook. Lemonade Berry D
Rhus ovata Wats. Sugarbush C
 * *Schinus molle* L. Pepper-tree G
Toxicodendron radicans (L.) Kuntze ssp. *diversilobum* (T. & G.) Thorne. C

TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE (CONTINUED)

	<u>HABITAT</u>
Apiaceae - Carrot Family	
<i>Apiastrum angustifolium</i> Nutt. in T. & G. Wild-celery	D
<i>Daucus pusillus</i> Michx. Rattlesnake Weed	D
* <i>Foeniculum vulgare</i> Mill. Sweet Fennel	G
<i>Sanicula bipinnatifolia</i> Dougl. ex Hook. Sanicle	G
<i>Sanicula crassicaulis</i> Poepp. ex D.C.	G
Asteraceae - Sunflower Family	
<i>Achillea millefolium</i> var. <i>californica</i> (Pollard) Jeps. Yarrow	D
<i>Ambrosia psilostachya</i> var. <i>californica</i> (Rydb.) Blake. Ragweed	D,F
* <i>Anthemus cotula</i> L. Dog Mayweed	F
<i>Artemisia californica</i> Less. California Sagebrush	D
<i>Aster spinosus</i> Benth. Mexican Devil-Weed	D
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i> (D.C.) C.B. Wolf. Coyote Brush	D
<i>Baccharis salicifolia</i> (R.P.) Pers. Mule-fat	F
<i>Baccharis sarothroides</i> Gray. Broom Baccharis	D
<i>Brickellia californica</i> (T. & G.) Gray. California Brickelbush	D
<i>Calycadenia tenella</i> (Nutt.) T. & G. Rosinweed	D
* <i>Centaurea melitensis</i> L. Tocalote	D,C,G
<i>Chaenactis artemisiaefolia</i> (Harv. & Gray) Gray. Pincushion	C
<i>Cirsium californicum</i> Gray. California Thistle	D
* <i>Cirsium vulgare</i> (Savi) Ten. Bull Thistle	D
* <i>Conyza bonariensis</i> (L.) Cronq. Flax-Leaf Fleabane	G
* <i>Conyza canadensis</i> (L.) Cronq. Horseweed	G
<i>Corethrogyne filaginifolia</i> var. <i>virgata</i> (Benth.) Gray. Virgate Cudweed-Aster	D
* <i>Cotula coronopifolia</i> L. African Brass-Buttons	F
<i>Encelia californica</i> Nutt. California Encelia	D
<i>Erigeron divergens</i> T. & G. Diffuse Daisy	C
<i>Erigeron foliosus</i> Nutt. var. <i>foliosus</i> Leafy Daisy	C,D
<i>Eriophyllum confertiflorum</i> (D.C.) Gray. var. <i>confertiflorum</i> Golden-Yarrow	C,D
<i>Filago californica</i> Nutt. California Filago	D
<i>Gnaphalium beneolens</i> Davids. Fragrant Everlasting	D
<i>Gnaphalium bicolor</i> Bioletti. Bicolor Cudweed	D
<i>Gnaphalium californicum</i> D.C. California Everlasting	D,G
<i>Gnaphalium palustre</i> Nutt. Lowland Cudweed	F
<i>Grindelia robusta</i> Nutt. Gum Plant	G
<i>Gutierrezia sarothrae</i> (Pursh) Britt. & Rusby. San Joaquin Matchweed	C
<i>Hazardia squarrosa</i> (H. & A.) Greene ssp. <i>grindelioides</i> (D.C.) Clark. Sawtooth Goldenbush	C,D
* <i>Hedypnois cretica</i> (L.) Willd. Crete Hedypnois	G
<i>Hemizonia fasciculata</i> (D.C.) T. & G. Fascicled Tarweed	D,C
<i>Hemizonia conjugens</i> Keck. Otay Tarplant	G
<i>Heterotheca grandiflora</i> Nutt. Telegraph Weed	D,G
<i>Holocarpha virgata</i> ssp. <i>elongata</i> Keck. Curving Tarweed	G
* <i>Hypochoeris glabra</i> L. Smooth Cat's-Ear	G
<i>Isocoma menziesii</i> var. <i>decumbens</i> (Greene) Nesom	D,G
<i>Isocoma menziesii</i> var. <i>veronioides</i> (Nutt.) Nesom Coastal Goldenbush	D
<i>Iva hayesiana</i> Gray. San Diego Poverty Weed	F
* <i>Lactuca serriola</i> L. Prickly Lettuce	G
<i>Lasthenia californica</i> DC. ex Lindley. Common Goldfields	D,G
<i>Pluchea odorata</i> Cav. Marsh Fleabane	F
<i>Porophyllum gracile</i> Benth. Odora	D
<i>Rafinesquia californica</i> Nutt. California Chicory	D
<i>Solidago californica</i> Nutt. California Goldenrod	D
* <i>Sonchus asper</i> (L.) Hill. Spiny-Leaf Sow-Thistle	G

TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE (CONTINUED)

	<u>HABITAT</u>
Asteraceae (continued)	
* <i>Sonchus oleraceus</i> L. Common Sow-Thistle	G
<i>Stephanomeria diegensis</i> Gottlieb. San Diego Wreath-Plant	D
<i>Viguiera laciniata</i> Gray. San Diego Sunflower	D
* <i>Xanthium strumarium</i> var. <i>canadense</i> (Mill.)T.& G. Cocklebur	D
Boraginaceae - Borage Family	
<i>Amsinckia intermedia</i> F.& M. Rancher's Fiddleneck	G
<i>Cryptantha intermedia</i> (Gray)Greene. Nievitas	G,D
<i>Heliotropium curvassavicum</i> var. <i>oculatum</i> (Heller)Jtn. Salt Heliotrope	G,F
<i>Plagiobothrys californicus</i> (Gray)Greene var. <i>californicus</i> California Popcornflower	C,D
Brassicaceae - Mustard Family	
* <i>Brassica geniculata</i> (Desf.)J. Ball. Short-pod Mustard	D,G
* <i>Brassica nigra</i> (L.)Koch Black Mustard	G
* <i>Capsella bursa-pastoris</i> (L.)Medic. Shepherd's-Purse	G
<i>Lepidium nitidum</i> Nutt. Pepper-grass	G
<i>Lepidium virginicum</i> L. var. <i>robinsonii</i> (Thell.)C.L. Hitchc. Robinson's Peppergrass	C
* <i>Nasturtium officinale</i> R.Br. White Water-Cress	F
* <i>Raphanus raphanistrum</i> L. Jointed Charlock	G
* <i>Raphanus sativus</i> L. Wild Radish	G
* <i>Sisymbrium irio</i> L. London Rocket	G
Buxaceae	
<i>Simmondsia chinensis</i> (Link)C.K.Schneid. Jojoba	D
Cactaceae - Cactus Family	
<i>Ferocactus viridescens</i> (Nutt.)Britton & Rose. Coast Barrel Cactus	D
<i>Mammillaria dioica</i> K. Bdg. Fish-hook Cactus	D
* <i>Opuntia ficus-indica</i> (L.)Miller. Indian-Fig	D
<i>Opuntia littoralis</i> (Engelm.)Ckll var. <i>littoralis</i> Coast Prickly-Pear	D
<i>Opuntia prolifera</i> Engelm. Coast Cholla	D
Capparaceae - Caper Family	
<i>Cleome isomeris</i> Greene. Bladderpod	D
Caprifoliaceae - Honeysuckle Family	
<i>Lonicera subspicata</i> var. <i>johnstonii</i> Keck. Southern Honeysuckle	C
Caryophyllaceae - Pink Family	
<i>Cerastium glomeratum</i> Thuill. Mouse-Ear Chickweed	G
* <i>Silene gallica</i> L. Common Catchfly	G
<i>Silene laciniata</i> Cav. ssp. <i>major</i> Hitchc. & Mcguire. Southern Pink	D
* <i>Spergula arvensis</i> L. Corn Spurry	F,G
Chenopodiaceae - Goosefoot Family	
* <i>Atriplex semibaccata</i> R. Br. Australian Saltbush	D
* <i>Chenopodium ambrosioides</i> L. Mexican-Tea	F
<i>Chenopodium californicum</i> (Wats.)Wats. California Goosefoot	D,G
* <i>Chenopodium murale</i> L. Nettle-Leaf Goosefoot	G,D
* <i>Salsola australis</i> R. Br. Russian-thistle	G
Cistaceae - Rock-Rose Family	
<i>Helianthemum scoparium</i> var. <i>aldersonii</i> (Greene)Munz. Rush-Rose	C

TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE (CONTINUED)

	<u>HABITAT</u>
Convolvulaceae - Morning-Glory Family	
<i>Calystegia macrostegia</i> ssp. <i>arida</i> (Greene) Brummitt. Finger-leaf Morning-Glory	D,C
<i>Cuscuta californica</i> H. & A. Witch's Hair	D
<i>Cuscuta ceanothi</i> Behr. Canyon Dodder	D,C
Crassulaceae - Stonecrop Family	
<i>Crassula connata</i> (Ruiz & Pav.) Berger in Engl. & Prantl. Dwarf Stonecrop	D
<i>Dudleya edulis</i> (Nutt.) Moran. Ladies-Fingers	D
<i>Dudleya pulverulenta</i> (Nutt.) Britt. & Rose. Chalk-lettuce	D
<i>Dudleya variegata</i> (Wats.) Moran. San Diego Hasseanthus	D,G
Cucurbitaceae - Gourd Family	
<i>Marah macrocarpus</i> (Greene) Greene. Manroot, Wild-Cucumber	D
Ericaceae - Heath Family	
<i>Xylococcus bicolor</i> Nutt. Mission Manzanita	C
Euphorbiaceae - Spurge Family	
<i>Chamaesyce polycarpa</i> (Benth.) Millsp. in Parish. var. <i>polycarpa</i> . Small-seed Sandmat	D
<i>Eremocarpus setigerus</i> (Hook.) Benth. Doveweed	G
Fabaceae - Pea Family	
* <i>Acacia pyrenantha</i> Benth.	G
<i>Astragalus trichopodus</i> ssp. <i>leucopsis</i> (T. & G.) Thorne. Locoweed	D
<i>Lathyrus laetiflorus</i> Greene ssp. <i>alefeldii</i> (White) Brads. San Diego Sweetpea	C,D
<i>Lotus hamatus</i> Greene. Grab Lotus	D
<i>Lotus purshianus</i> (Benth.) Clem. & Clem. Spanish-Clover	G
<i>Lotus scoparius</i> (Nutt. in T. & G.) Ottley ssp. <i>scoparius</i> . Coastal Deerweed	D,G
<i>Lotus strigosus</i> Greene. Bishop's Lotus	D
<i>Lupinus hirsutissimus</i> Benth. Stinging Lupine	D
<i>Lupinus truncatus</i> Nutt. ex H. & A. Collar Lupine	G
* <i>Medicago polymorpha</i> L. California Bur-Clover	G
* <i>Melilotus albus</i> Desr. White Sweet Clover	G
<i>Trifolium tridentatum</i> Lindl. var. <i>tridentatum</i> Tomcat Clover	G
<i>Vicia ludoviciana</i> Nutt. Deerpea Vetch	D
Fagaceae - Oak Family	
<i>Quercus dumosa</i> Nutt. Scrub Oak	C
Gentianaceae - Gentian Family	
<i>Centaurium venustum</i> (Gray) Rob. Canchalagua	D
Geraniaceae - Geranium Family	
* <i>Erodium botrys</i> (Cav.) Bertol. Long-beak Filaree	G
* <i>Erodium cicutarium</i> (L.) L'Her. Red-stem Filaree	G,C,D
* <i>Erodium moschatum</i> (L.) L'Her. White-stem Filaree	G
Grossulariaceae - Currant Family	
<i>Ribes indecorum</i> Eastw. Winter Currant	C
<i>Ribes speciosum</i> Pursh. Fuchsia-flowered Gooseberry	C,D
Hydrophyllaceae - Waterleaf Family	
<i>Eriodictyon crassifolium</i> Benth. Yerba Santa	C
<i>Eucrypta chrysanthemifolia</i> (Benth.) Greene. var. <i>chrysanthemifolia</i>	C
<i>Phacelia cicutaria</i> ssp. <i>hispida</i> (Gray) Beauch. Caterpillar Phacelia	D
<i>Phacelia suffrutescens</i> (Parry) Const.	D

TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE (CONTINUED)

	<u>HABITAT</u>
Lamiaceae - Mint Family	
* <i>Marrubium vulgare</i> L. Horehound	G
<i>Salvia apiana</i> Jeps. White Sage	D
<i>Salvia mellifera</i> Greene. Black Sage	D
<i>Salvia munzii</i> Epl.	D
<i>Thrichostema lanceolatum</i> Benth. Vinegar Weed	D
Lythraceae - Loosestrife Family	
* <i>Lythrum hyssopifolia</i> L. Grass Poly	F
Malvaceae - Mallow Family	
<i>Malacothamnus densiflorus</i> var. <i>viscidus</i> (Abrams)Kearn. San Diego Bushmallow	C
<i>Malacothamnus fasciculatus</i> (Nutt.)Greene var. <i>fasciculatus</i> Mesa Bushmallow	D
<i>Sidalcea malvaeflora</i> ssp. <i>sparsifolia</i> C.L.Hitchc. Checkers	D
Nyctaginaceae - Four-O'Clock Family	
<i>Mirabilis californica</i> Gray. Wishbone Plant	D
Oleaceae - Olive Family	
* <i>Olea europea</i> L. Mission Olive	G
Onagraceae - Evening-Primrose Family	
<i>Clarkia purpurea</i> ssp. <i>viminea</i> (Dougl. in Lindl.)Lewis & Lewis. Large Clarkia	G
<i>Epilobium canum</i> ssp. <i>angustifolium</i> (Keck)Raven. California-Fuchsia	D
Oxalidaceae - Wood-Sorrel Family	
<i>Oxalis albicans</i> H.B.K. ssp. <i>californica</i> (Abrams)Eiten. California Wood-Sorrel	C
Papaveraceae - Poppy Family	
<i>Eschscholzia californica</i> var. <i>peninsularis</i> (Greene)Munz. Annual Calif. Poppy	D
Plantaginaceae - Plantain Family	
<i>Plantago erecta</i> Morris ssp. <i>erecta</i> . Dot-seed Plantain	D
Polemoniaceae - Phlox Family	
<i>Eriastrum filifolium</i> (Nutt.)Woot. & Standl. Thread-leaf Woolly-Star	D,G
<i>Linanthus dianthiflorus</i> Greene. Ground Pink	D
<i>Navarretia hamata</i> Greene. Skunkweed	C
Polygonaceae - Buckwheat Family	
<i>Chorizanthe fimbriata</i> Nutt. Fringed Turkish Rugging	C
<i>Eriogonum fasciculatum</i> Benth. ssp. <i>fasciculatum</i> Flat-top Buckwheat	D,C
<i>Persicaria amphibia</i> (L.)Gray var. <i>emersa</i> (Michx.)Hickman. Marsh Knotweed	F
* <i>Polygonum arenastrum</i> Bor. Yard Knotweed	G
<i>Pterostegia drymarioides</i> F. & M. Granny's Hairnet	D
* <i>Rumex crispus</i> L. Curly Dock	G,F
<i>Rumex salicifolius</i> var. <i>salicifolius</i> Weinm. Willow Dock	F
Portulacaceae - Purslane Family	
<i>Calandrinia ciliata</i> (R. & P.)D.C. var. <i>menziesii</i> (Hook)Macbr. Red Maids	G
<i>Claytonia perfoliata</i> Donn. Common Miner's-Lettuce	D
Primulaceae - Primrose Family	
* <i>Anagallis arvensis</i> L. Scarlet Pimpernel	D,F
<i>Samolus parviflorus</i> Raf. Water Pimpernel	F

TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE (CONTINUED)

	<u>HABITAT</u>
Ranunculaceae - Crowfoot Family	
<i>Clematis ligusticifolia</i> Nutt. in T. & G. Virgin's Bower	D
Rhamnaceae - Buckthorn Family	
<i>Adolphia californica</i> Wats. California Adolphia	D
<i>Ceanothus greggii</i> var. <i>perplexans</i> (Trel.) Jeps. Cupleaf Lilac	C
<i>Ceanothus tomentosus</i> ssp. <i>olivaceus</i> (Jeps.) Munz. Ramona-Lilac	C
<i>Rhamnus crocea</i> Nutt. in T. & G. Spiny Redberry	D
Rosaceae - Rose Family	
<i>Adenostoma fasciculatum</i> H. & A. Common Chamise	C
<i>Cercocarpus minutiflorus</i> Abrams. Coastal Mountain-Mahogany	C
<i>Heteromeles arbutifolia</i> M. Roem. Hollywood, Toyon	C
<i>Prunus ilicifolia</i> (Nutt.) Walp. Holly-leaf Cherry	D
<i>Rosa californica</i> C. & S. Wild Rose	F
Rubiaceae - Madder Family	
<i>Galium angustifolium</i> Nutt. ex T. & G. ssp. <i>angustifolium</i> Narrow-leaf Bedstraw	D
<i>Galium nuttallii</i> Gray ssp. <i>nuttallii</i> Nuttall's Bedstraw	D
Salicaceae - Willow Family	
<i>Salix gooddingii</i> var. <i>variabilis</i> Ball. Black Willow	F
<i>Salix lasiolepis</i> var. <i>bracelinae</i> Ball. Bracelin's Willow	F
Scrophulariaceae - Figwort Family	
<i>Antirrhinum nuttallianum</i> Benth. in DC. Nuttall's Snapdragon	C
<i>Castilleja affinis</i> H. & A. ssp. <i>affinis</i> . Coast Paint-Brush	C
<i>Collinsia heterophylla</i> Buist. ex Grah. var. <i>heterophylla</i>	C,D
<i>Diplacus aurantiacus</i> (Curt.) Jeps. ssp. <i>australis</i> (McMinn) R.M. Beeks ex Thorne.	C
<i>Diplacus puniceus</i> Nutt. ex Taylor. Coast Bush Monkeyflower	D
<i>Keckiella cordifolia</i> (Benth.) Straw Climbing Penstemon	C
<i>Mimulus cardinalis</i> Dougl. ex Benth. Scarlet Monkey Flower	F
<i>Orthocarpus purpurascens</i> Benth. var. <i>purpurascens</i> Red Owl's-Clover	G
<i>Scrophularia californica</i> var. <i>floribunda</i> Greene. California Bee Plant	C,D
Simmondsiaceae - Jojoba Family	
<i>Simmondsia chinensis</i> (Link) C.K. Schneid. Jojoba	D
Solanaceae - Nightshade Family	
<i>Datura wrightii</i> Regel. Western Jimsonweed	D
* <i>Nicotiana glauca</i> Grah. Tree Tobacco	G,D
<i>Petunia parviflora</i> Juss. Petunia	F
<i>Solanum douglasii</i> Dunal in D.C. Douglas' Nightshade	D
* <i>Solanum nigrum</i> L. Black Nightshade	G
<i>Solanum parishii</i> Heller. Parish's Nightshade	D
Tamaricaceae - Tamarisk Family	
* <i>Tamarix</i> sp. Tamarisk	G
Urticaceae - Nettle Family	
* <i>Urtica urens</i> L. Dwarf Nettle	D
Verbenaceae - Verbena Family	
<i>Verbena menthaefolia</i> Benth. Mint-leaf Vervain	G

TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE (CONTINUED)

	<u>HABITAT</u>
MONOCOTYLEDONS	
Agavaceae - Agave Family	
<i>Yucca schidigera</i> Roezl ex Ortgies. Mojave Yucca	D
<i>Yucca whipplei</i> Torr. Our Lord's Candle	D,C
Alliaceae - Onion Family	
<i>Allium praecox</i> Bdg. Wild Onion	G
<i>Bloomeria crocea</i> (Torr.)Cov. ssp. <i>crocea</i> Common Golden-Stars	D
<i>Dichelostemma pulchellum</i> (Salisb.)Heller. Wild-Hyacinth	G,D
<i>Muilla clevelandii</i> (Wats.)Hoover. Cleveland's Golden-Stars	G
Cyperaceae - Sedge Family	
<i>Cyperus eragrostis</i> Lam. Tall Flatsedge	F
<i>Eleocharis macrostachya</i> Britt. in Small. Pale Spike-Sedge	F
<i>Scirpus americanus</i> Pers. Olney's Bulrush	F
Iridaceae - Iris Family	
<i>Sisyrinchium bellum</i> Wats. Blue-eyed-Grass	G
Juncaceae - Rush Family	
<i>Juncus acutus</i> L. ssp. <i>leopoldii</i> Engelm. Southwestern Spiny Rush	F
<i>Juncus bufonius</i> L. Toad Rush	F
Liliaceae - Lily Family	
<i>Calochortus splendens</i> Dougl. ex Benth. Splendid Mariposa-Lily	D
<i>Calochortus weedii</i> Wood var. <i>weedii</i> Weed's Mariposa-Lily	C
<i>Chlorogalum parviflorum</i> Wats. Small-Flower Soap-Plant	C
Poaceae - Grass Family	
* <i>Avena barbata</i> L. Slender Oat	C,D,G
<i>Bothriochloa barbinodis</i> (Lag.)Herter. Plumed Beardgrass	C
* <i>Bromus mollis</i> L. Soft Chess	G,C,D
* <i>Bromus rubens</i> L. Red Brome	G,C,D
<i>Distichlis spicata</i> ssp. <i>stricta</i> (Torr.)Thorne. Desert Salt-Grass	G
* <i>Gastridium ventricosum</i> (Gouan)Schinz & Thell. Nitgrass	G
* <i>Hordeum murinum</i> L. ssp. <i>glaucum</i> (Steud.)Tzvel. Glaucous Barley	G
* <i>Hordeum vulgare</i> L. Cultivated Barley	G
* <i>Lamarckia aurea</i> (L.)Moench. Goldentop	G
* <i>Lolium perenne</i> L. English Ryegrass	G
<i>Melica imperfecta</i> Trin. Coast Range Melic	D,C
<i>Nassella (Stipa) lepida</i> (A.S. Hitchcock)Barkworth Foothill Needlegrass	
<i>Nassella (Stipa) pulchra</i> (A.S. Hitchcock)Barkworth Purple Needlegrass	
* <i>Phalaris canariensis</i> L. Mediterranean Canary Grass	G
* <i>Poa annua</i> L. Annual Bluegrass	G
* <i>Polypogon monspeliensis</i> (L.)Desf. Annual Beardgrass	F
* <i>Schismus barbatus</i> (L.)Thell. Mediterranean Schismus	G
* <i>Sorghum halepense</i> (L.)Pers. Johnson Grass	G
<i>Stipa coronata</i> Thurb. in Wats. Giant Stipa	C
* <i>Vulpia myuros</i> var. <i>hirsuta</i> Hack. Foxtail Fescue	G

TABLE 1. FLORAL CHECKLIST OF THE RANCHO SAN MIGUEL SITE (CONTINUED)

	<u>HABITAT</u>
Potamogetonaceae - Pondweed Family	
<i>Potamogeton pectinatus</i> L. Fennel-Leaf Pondweed	F
Typhaceae - Cat-Tail Family	
<i>Typha domingensis</i> Pers. Tule Cat-tails	F

* - Denotes non-native plant taxa

TABLE 2. ANIMALS OBSERVED OR DETECTED ON THE RANCHO SAN MIGUEL PROPERTY.

HABITAT: C = Chaparral S = Coastal Sage
 G = Annual Grassland P = Freshwater Pond
 X = Exotic Plantings/Ranch Yards R = Rocky Outcrops
 F = Flying Over Site

ABUNDANCE*: C = Common O = Occasional R = Rare

STATUS ON-SITE (BIRDS ONLY): P = Permanent resident, breeds on the site or in the area
 B = Summer resident, breeds on the site or in the area
 W = Winter visitor or migrant
 T = Transient, may or may not breed locally

COMMON NAME	SCIENTIFIC NAME	STATUS ON-SITE	ABUNDANCE	HABITAT
AMPHIBIANS				
Plethodontidae (Lungless Salamanders)				
Garden Slender Salamander	<i>Batrachoseps major</i>		O	S
Pelobatidae (Spadefoot Toads)				
Western Spadefoot	<i>Spea hammondi</i>		C	S
Bufonidae (True Toads)				
California Toad	<i>Bufo boreas halophilus</i>		O	S
Hylidae (Chorus Frogs and Relatives)				
Pacific Chorus Frog	<i>Pseudacris regilla</i>		C	S
REPTILES				
Iguanidae (Iguanids)				
Western Fence Lizard	<i>Sceloporus occidentalis</i>		C	R,S
Side-blotched Lizard	<i>Uta stansburiana</i>		C	S
San Diego Horned Lizard	<i>Phrynosoma coronatum blainvillei</i>		O	S
Teiidae (Whiptails and Relatives)				
Orangethroat Whiptail	<i>Cnemidophorus hyperythrus</i>		O	S
Western Whiptail	<i>Cnemidophorus tigris</i>		C	S
Anguidae (Alligator Lizards and Relatives)				
Southern Alligator Lizard	<i>Elgaria multicarinatus</i>		O	C,G
Boidae (Boas)				
Rosy Boa	<i>Lichanura trivirgata</i>		O	S
Colubridae (Colubrids)				
Coachwhip	<i>Masticophis flagellum</i>		O	S
California Striped Racer	<i>Masticophis lateralis</i>		O	S
Common Kingsnake	<i>Lampropeltis getulus</i>		O	S
Gopher Snake	<i>Pituophis melanoleucus</i>		O	S
Two-striped Garter Snake	<i>Thamnophis hammondi</i>		O	S
Viperidae (Vipers)				
Red Diamond Rattlesnake	<i>Crotalus ruber</i>		O	R,S
Southern Pacific Rattlesnake	<i>Crotalus viridis</i>		C	R,S

TABLE 2. ANIMALS OBSERVED OR DETECTED ON THE RANCHO SAN MIGUEL PROPERTY (CONTINUED).

COMMON NAME	SCIENTIFIC NAME	STATUS ON--SITE	ABUNDANCE	HABITAT
BIRDS				
Phalacrocoracidae (Cormorants)				
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	W	R	F
Ardeidae (Heron and Bitterns)				
Great Blue Heron	<i>Ardea herodias</i>	I	R	P
Great Egret	<i>Casmerodius albus</i>	I	R	P
Snowy Egret	<i>Egretta thula</i>	I	R	P
Green-backed Heron	<i>Butorides striatus</i>	I	R	P
Anatidae (Swans, Geese, and Ducks)				
Mallard	<i>Anas platyrhynchos</i>	I	O	P
Northern Pintail	<i>Anas acuta</i>	W	R	P
Cinnamon Teal	<i>Anas cyanoptera</i>	I	R	P
Gadwall	<i>Anas strepera</i>	W	R	P
American Wigeon	<i>Anas americana</i>	W	R	P
Canvasback	<i>Aythya valisineria</i>	W	R	P
Ring-necked Duck	<i>Aythya collaris</i>	W	R	P
Lesser Scaup	<i>Aythya affinis</i>	W	R	P
Bufflehead	<i>Bucephala albeola</i>	W	R	P
Ruddy Duck	<i>Oxyura jamaicensis</i>	I	R	P
Cathartidae (American Vultures)				
Turkey Vulture	<i>Cathartes aura</i>	P	C	F,S
Accipitridae (Hawks, Old World Vultures, and Harriers)				
Osprey	<i>Pandion haliaetus</i>	W	R	F
Black-shouldered Kite	<i>Elanus caeruleus</i>	P	O	F,G,S
Northern Harrier	<i>Circus cyaneus</i>	P	O	F,S
Sharp-shinned Hawk	<i>Accipiter striatus</i>	W	R	F,S
Cooper's Hawk	<i>Accipiter cooperii</i>	P	O	F,S
Red-shouldered Hawk	<i>Buteo lineatus</i>	P	O	E
Red-tailed Hawk	<i>Buteo jamaicensis</i>	P	C	F,S
Golden Eagle	<i>Aquila chrysaetos</i>	P	C	F,G,S
Falconidae (Caracaras and Falcons)				
American Kestrel	<i>Falco sparverius</i>	P	C	E,F,G,S
Prairie Falcon	<i>Falco mexicanus</i>	W	O	F,S
Peregrine Falcon	<i>Falco peregrinus</i>	W	R	F,S
Phasianidae (Quails, Pheasants, and Relatives)				
California Quail	<i>Callipepla californica</i>	P	C	S
Rallidae (Rails, Gallinules, and Coots)				
American Coot	<i>Fulica americana</i>	I	O	P
Charadriidae (Plovers and Relatives)				
Killdeer	<i>Charadrius vociferus</i>	P	C	G,P
Recurvirostridae (Avocets and Stilts)				
Black-necked Stilt	<i>Himantopus mexicanus</i>	I	O	P
Scolopacidae (Sandpipers and Relatives)				
Greater Yellowlegs	<i>Tringa melanoleuca</i>	W	O	P
Spotted Sandpiper	<i>Actitis macularia</i>	W	O	P
Western Sandpiper	<i>Calidris mauri</i>	W	O	P
Least Sandpiper	<i>Calidris minutilla</i>	W	O	P
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	W	O	P
Laridae (Gulls and Terns)				
Ring-billed Gull	<i>Larus delawarensis</i>	I	R	F
California Gull	<i>Larus californicus</i>	I	R	F
Caspian Tern	<i>Sterna caspia</i>	I	R	F
Forster's Tern	<i>Sterna forsteri</i>	I	R	F

TABLE 2. ANIMALS OBSERVED OR DETECTED ON THE RANCHO SAN MIGUEL PROPERTY (CONTINUED).

COMMON NAME	SCIENTIFIC NAME	STATUS ON-SITE	ABUNDANCE	HABITAT
Columbidae (Pigeons and Doves)				
Rock Dove	<i>Columba livia</i>	P	C	E,F
Mourning Dove	<i>Zenaida macroura</i>	P	C	F,G,S
Cuculidae (Typical Cuckoos)				
Greater Roadrunner	<i>Geococcyx californianus</i>	P	C	S
Tytonidae (Barn Owls)				
Common Barn-Owl	<i>Tyto alba</i>	P	C	E,G
Strigidae (Typical Owls)				
Great Horned Owl	<i>Bubo virginianus</i>	P	C	R,S
Burrowing Owl	<i>Athene cunicularia</i>	P	O	S
Caprimulgidae (Goatsuckers)				
Lesser Nighthawk	<i>Chordeiles acutipennis</i>	B	C	S
Apodidae (Swifts)				
Vaux's Swift	<i>Chaetura vauxi</i>	W	O	F
White-throated Swift	<i>Aeronautes saxatalis</i>	P	C	F
Trochilidae (Hummingbirds)				
Anna's Hummingbird	<i>Calypte anna</i>	P	C	S
Trochilidae (continued)				
Costa's Hummingbird	<i>Calypte costae</i>	P	C	S
Rufous Hummingbird	<i>Selasphorus rufus</i>	W	C	S
Allen's Hummingbird	<i>Selasphorus sasin</i>	W	C	S
Alcedinidae (Kingfishers)				
Belted Kingfisher	<i>Ceryle alcyon</i>	I	R	P
Picidae (Woodpeckers and Wrynecks)				
Northern Flicker	<i>Colaptes auratus</i>	P	O	E
Nuttall's Woodpecker	<i>Picoides nuttallii</i>	P	O	E,S
Tyrannidae (Tyrant Flycatchers)				
Olive-sided Flycatcher	<i>Contopus borealis</i>	W	R	E
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	W	C	S,P
Black Phoebe	<i>Sayornis nigricans</i>	P	C	E
Say's Phoebe	<i>Sayornis saya</i>	W (P?)	C	S
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	B	C	S
Cassin's Kingbird	<i>Tyrannus vociferans</i>	B	C	S
Western Kingbird	<i>Tyrannus verticalis</i>	B	C	S
Alaudidae (Larks)				
Horned Lark	<i>Eremophila alpestris</i>	W	O	G
Hirundinidae (Swallows)				
Tree Swallow	<i>Tachycineta bicolor</i>	I	O	F
Violet-green Swallow	<i>Tachycineta thalassina</i>	B	O	F
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	B	C	F,S
Cliff Swallow	<i>Hirundo pyrrhonota</i>	B	C	F,S
Barn Swallow	<i>Hirundo rustica</i>	B	O	F
Corvidae (Jays, Magpies, and Crows)				
Scrub Jay	<i>Aphelocoma coerulescens</i>	P	C	S
Common Raven	<i>Corvus corax</i>		P	S
Aegithalidae (Bushtit)				
Bushtit	<i>Psaltirparus minimus</i>	P	C	S

TABLE 2. ANIMALS OBSERVED OR DETECTED ON THE RANCHO SAN MIGUEL PROPERTY (CONTINUED).

COMMON NAME	SCIENTIFIC NAME	STATUS ON--SITE	ABUNDANCE	HABITAT
Troglodytidae (Wrens)				
San Diego Cactus Wren	<i>Campylorhynchus brunneicapillus sandiegense</i>	P	C	S
Rock Wren	<i>Salpinctes obsoletus</i>	W	C	R,S
House Wren	<i>Troglodytes aedon</i>	P	O	S
Bewick's Wren	<i>Thryomanes bewickii</i>	P	C	S
Canyon Wren	<i>Catherpes mexicanus</i>	P	R	R
Muscicapidae (Old World Warblers, Gnatcatchers, Kinglets, Thrushes, Bluebirds, and Wrentit)				
Ruby-crowned Kinglet	<i>Regulus calendula</i>	W	O	S
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	T	R	C,S
California Gnatcatcher	<i>Polioptila californica</i>	P	C	S
Hermit Thrush	<i>Catharus guttatus</i>	W	C	S
Wrentit	<i>Chamaea fasciata</i>	P	C	S
Mimidae (Mockingbirds and Thrashers)				
Northern Mockingbird	<i>Mimus polyglottos</i>	P	C	E,S
Sage Thrasher	<i>Oreoscoptes montanus</i>	W	R	S
California Thrasher	<i>Taxostoma redivivum</i>	P	C	S
Motacillidae (Wagtails and Pipits)				
American Pipit	<i>Anthus rubescens</i>	W	O	G
Ptilonotidae (Silky Flycatchers)				
Phainopepla	<i>Phainopepla nitens</i>	B	C	S
Laniidae (Shrikes)				
Loggerhead Shrike	<i>Lanius ludovicianus</i>	P	C	S
Sturnidae (Starlings)				
European Starling	<i>Sturnus vulgaris</i>	P	C	S
Vireonidae (Typical Vireos)				
Solitary Vireo	<i>Vireo solitarius</i>	W	R	S
Warbling Vireo	<i>Vireo gilvus</i>	W	R	S
Emberizidae (Warblers, Sparrows, Blackbirds and Relatives)				
Orange-crowned Warbler	<i>Vermivora celata</i>	W	C	E,S
Yellow-rumped Warbler	<i>Dendroica coronata</i>	W	C	S
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>	W	R	S
Common Yellowthroat	<i>Geothlypis trichas</i>	P	O	G,P,S
Wilson's Warbler	<i>Wilsonia pusilla</i>	W	R	S
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	W	R	S
Blue Grosbeak	<i>Guiraca caerulea</i>	B	R	S
Lazuli Bunting	<i>Passerina amoena</i>	B	C	G,S
California Towhee	<i>Pipilo crissalis</i>	P	C	S
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>	P	C	S
Brewer's Sparrow	<i>Spizella breweri</i>	W	R	S
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>	P	C	C,S
Black-chinned Sparrow	<i>Spizella atrogularis</i>	B	C	C,S
Vesper Sparrow	<i>Pooecetes gramineus</i>	W	O	S
Lark Sparrow	<i>Chondestes grammacus</i>	P	O	S
Coastal Sage Sparrow	<i>Amphispiza belli belli</i>	P	C	S
Savannah Sparrow	<i>Passerculus sandwichensis</i>	W	C	G
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	B	C	G,S
Fox Sparrow	<i>Passerella iliaca</i>	W	R	C,S
Song Sparrow	<i>Melospiza melodia</i>	P	O	S
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	W	O	G,P,S
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	W	O	S
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	W	C	S
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	P	C	G
Western Meadowlark	<i>Sturnella neglecta</i>	P	C	G,S
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	P	C	E,G
Brown-headed Cowbird	<i>Molothrus ater</i>	P	R	E

TABLE 2. ANIMALS OBSERVED OR DETECTED ON THE RANCHO SAN MIGUEL PROPERTY (CONTINUED).

COMMON NAME	SCIENTIFIC NAME	STATUS ON-SITE	ABUNDANCE	HABITAT
Emberizidae (continued)				
Northern Oriole	<i>Icterus galbula</i>	B	O	E
Hooded Oriole	<i>Icterus cucullatus</i>	B	O	E
Fringillidae (Finches)				
House Finch	<i>Carpodacus mexicanus</i>	P	C	E,S
Lesser Goldfinch	<i>Carduelis psaltria</i>	P	C	S
Lawrence's Goldfinch	<i>Carduelis lawrencei</i>	W	O	S
Passeridae (Weaver Finches)				
House Sparrow	<i>Passer domesticus</i>	P	C	E
MAMMALS				
Didelphidae (Opossums)				
Virginia Opossum	<i>Didelphis virginiana</i>		O	S
Leporidae (Rabbits and Hares)				
Desert Cottontail	<i>Sylvilagus audubonii</i>		C	C,S
Black-tailed Hare	<i>Lepus californicus</i>		C	S
Sciuridae (Squirrels, Chipmunks, and Marmots)				
California Ground Squirrel	<i>Spermophilus beecheyi</i>		C	G,S
Geomyidae (Pocket Gophers)				
Botta's Pocket Gopher	<i>Thomomys bottae</i>		C	C,G,S
Heteromyidae (Pocket Mice and Kangaroo Rats)				
San Diego Pocket Mouse	<i>Perognathus fallax</i>		C	S
Pacific Kangaroo Rat	<i>Dipodomys agilis</i>		C	C,S
Muridae (Rats, mice, and voles)				
Deer Mouse	<i>Peromyscus maniculatus</i>		C	S
Desert Woodrat	<i>Neotoma lepida</i>		C	R,S
Dusky-footed Woodrat	<i>Neotoma fuscipes</i>		O	S
Canidae (Foxes, Wolves, and Relatives)				
Coyote	<i>Canis latrans</i>		C	C,S
Gray Fox	<i>Urocyon cinereoargenteus</i>		C	C,S
Procyonidae (Raccoons and Relatives)				
Raccoon	<i>Procyon lotor</i>		O	S
Mustelidae (Weasels, Badgers, and Relatives)				
Striped Skunk	<i>Mephitis mephitis</i>		O	S
Felidae (Cats)				
Bobcat	<i>Lynx rufus</i>		O	S
Cervidae (Deer, Elk, and Relatives)				
Mule Deer	<i>Odocoileus hemionus</i>		C	C,S

* **ABUNDANCE** = The frequency of observations indicated in this table may not necessarily reflect the true population density for a given species. This is especially true for snakes and many other species which are generally secretive.

C = Common Frequently seen in appropriate habitat/season in all or most field visits to the site.

O = Occasional Less common but regularly seen in appropriate habitat/season. This primarily includes species with low population densities.

R = Rare Seen fewer than three times on the property. Status of these species on-site is unclear due to their nocturnal or secretive habits.

APPENDIX C

**BIOLOGY REPORT
SWEETWATER ENVIRONMENTAL BIOLOGISTS
AND
ERCE**

Biological Technical Report

Rancho San Miguel

General Development Plan

Prepared for:

City of Chula Vista

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Prepared by:

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August 1991

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EXECUTIVE SUMMARY

Biological resources studies were conducted for the proposed project site to determine presence, potential occurrence and status of sensitive resources on the site. This report describes the results of surveys conducted in 1989, 1990 and 1991 by PSBS, ERCE and SEB. Results of these surveys were used to analyze potential significant impacts to biological resources from the proposed development project.

The proposed project is a Concept Plan for urban development. The project area consists of two portions: the northern portion is 1,852 acres and the southern portion is 738 acres. Three alternatives to the Concept Plan are also proposed for the development in the project area.

Three sensitive habitats occur on-site including: wetlands (riparian scrub/mulefat association; dry marsh/riparian scrub), Diegan coastal sage scrub, and disturbed valley needlegrass grassland. The wetland habitats total 13 acres on Rancho San Miguel and are of low to medium quality. Diegan coastal sage scrub totals 1,922 acres, and supports California gnatcatcher and cactus wren. Disturbed coastal prairie consisting of approximately 15 acres is located in the eastern portion of the northern parcel and contains several sensitive plants and supports native perennial grass species. Wetlands and Diegan coastal sage scrub are considered significantly impacted by the project.

Fourteen sensitive plant species occur on the project site, six of which are considered significantly impacted. Twenty sensitive wildlife species were observed on the site, two of which will be significantly impacted by implementation of the proposed project: California gnatcatcher and cactus wren. Wildlife movement corridors will be significantly impacted by the project.

The project as currently proposed results in significant unmitigable impacts to the California gnatcatcher, cactus wren, coast barrel cactus, Otoy tarweed, and Palmer's grappling hook.

INTRODUCTION

Two biological resource studies were conducted for the proposed project site by Pacific Southwest Biological Services, Inc. (PSBS) (1989a, b) and ERC Environmental and Energy Services Co. (ERCE) (1990). Sweetwater Environmental Biologists (SEB) conducted additional focused surveys in 1991. These surveys were conducted for the purpose of providing the City of Chula Vista's Planning Department with focused biological data needed to satisfy a review of the existing project under the California Environmental Quality Act. This report describes the results of both surveys and existing conditions on the project site including:

- plant communities,
- wildlife use and habitats, and
- identifies the presence or potential occurrence of sensitive and significant biological resources.

Biological resources occurring within the surrounding area are also discussed including the site's relationship to biological resources in a regional context.

Results of PSBS and ERCE studies were used for the analysis of resource use on the project site and potential impacts to these resources. Mitigation measures are proposed, where appropriate, to reduce impacts to a level of non-significance.

PROJECT DESCRIPTION

The proposed project is a Concept Plan for urban development with the project area consisting of two portions. Three alternatives to the Concept Plan are also proposed for the development in the project area. The northern portion is 1,852 acres and the southern portion is 738 acres.

Four different actions are proposed by the project applicant:

- approval of a General Development Plan (GDP);
- development of a new connector road from the site to San Miguel Road west of the project site;
- pre-zone by the City of Chula Vista; and

- annexation from the County of San Diego to the City of Chula Vista.

The project for the GDP includes plans for 1,297 single-family residences in the southern portion (466 acres) and 357 residences with a 1-acre lot average (357 acres) in the northern section. The southern portion includes plans for a 16.4-acre commercial center, a 10.8-acre school site, and a 20.6-acre community park. The northern portion includes plans for a 6.7-acre conference center, and an interpretive center of undetermined size. Approximately 43.1-acres are associated with road development. The plans would also incorporate pedestrian, equestrian and bicycle trails. Approximately 1669 acres will be preserved as natural, undisturbed vegetation. Plate 1 illustrates the concept plan.

Three alternatives to the Concept Plan have been proposed for the development of the project site. These alternatives were developed during discussions with the City of Chula Vista, USFWS and CDFG in an effort to reduce environmental impacts.

Alternative 1, Horseshoe Bend, would slightly reduce the number of residences to 1,618 on 823.4 acres for the entire project site. The commercial center in the southern portion would be reduced to 14 acres and the park to 15 acres. The school site would be eliminated. The remainder of the alternative would remain identical to the project with 6.7 acres for the conference center and 43.1 acres of road development.

Alternative 2, Coon Canyon, would increase the number of housing units in the southern portion to 1,330, and the number of acres of impacted to 738.2. In the northern section the number of housing units would be 276, impacting 276 acres.

Alternative 3, Southern Development Only, (Biologically Sensitive Alternative) would have 1600 housing units, impacting 461 acres in the southern portion. No development would occur in the northern portion of the project site.

Seven alternatives are under study for Interstate Route 125, some of which may require modification of the Concept Plan. No specific impacts analyses were conducted for concept plan alternatives that incorporated Route 125 alternatives because these concept plan alternatives essentially impact the same areas as the proposed project.

GEOGRAPHICAL LIMITS OF THE STUDY

The Rancho San Miguel project area is located in the southwestern portion of the County of San Diego, south of Sweetwater Reservoir and adjacent to the northeastern border of the City of Chula Vista (Figure 1). The project site encompasses approximately 2,590 acres located in Township 17 South, Range 1 West and in Sections, or portions of Sections, 11, 14, 15, 21, 22, 23, 26, 27, and 28. The property is bounded by Proctor Valley Road on the west and south, the Otay Water Treatment Facility and Mt. San Miguel on the east, and the Sweetwater River and Reservoir on the north and northwest (Figure 2). The San Diego Gas and Electric's Miguel Substation is located approximately in the center of the project area, and separates the southern and northern portions.

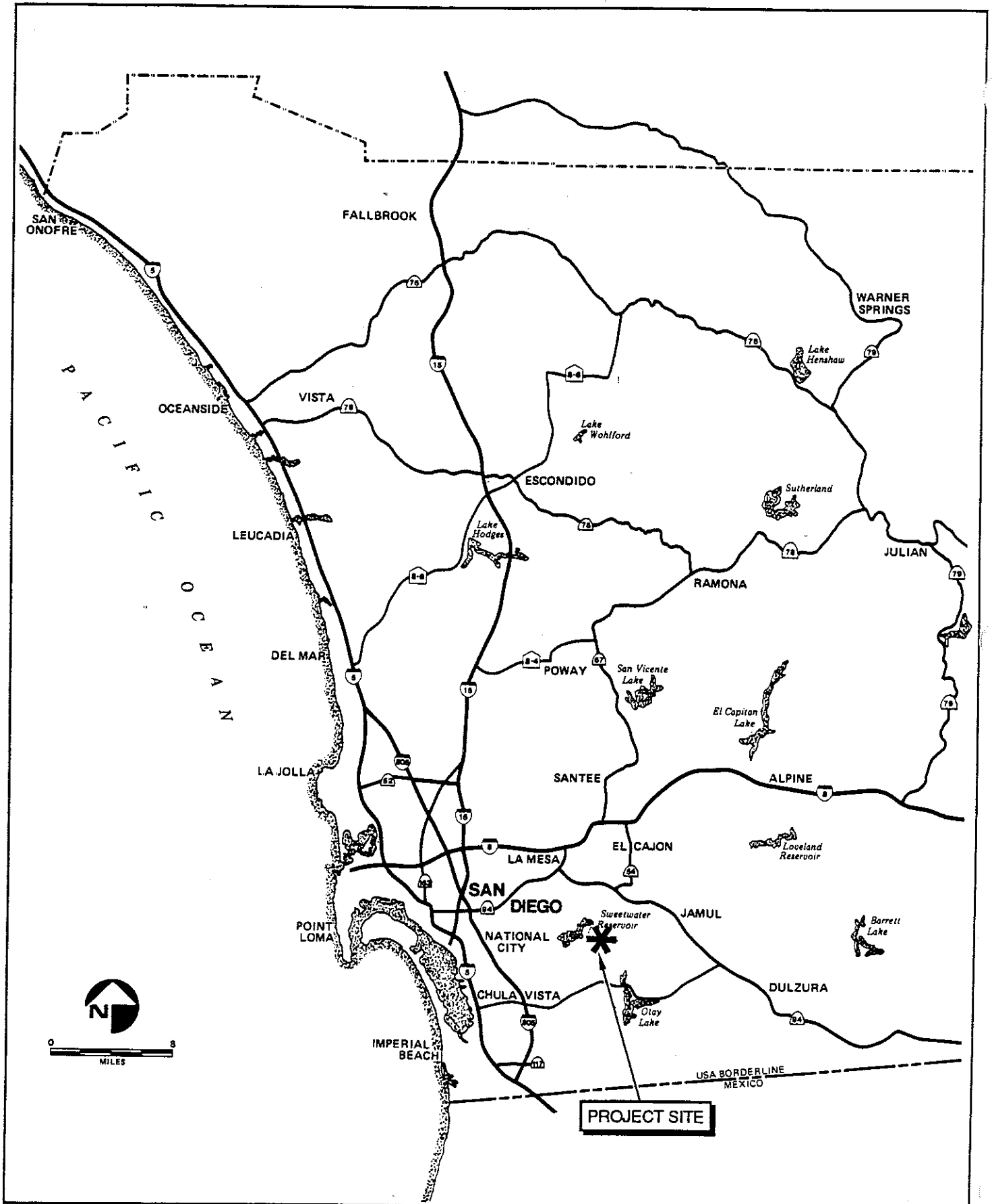
The project area is divided into two portions: the 1,852-acre northern portion and the 738-acre southern portion. As mentioned above, the north and south portions are separated by property owned by San Diego Gas and Electric.

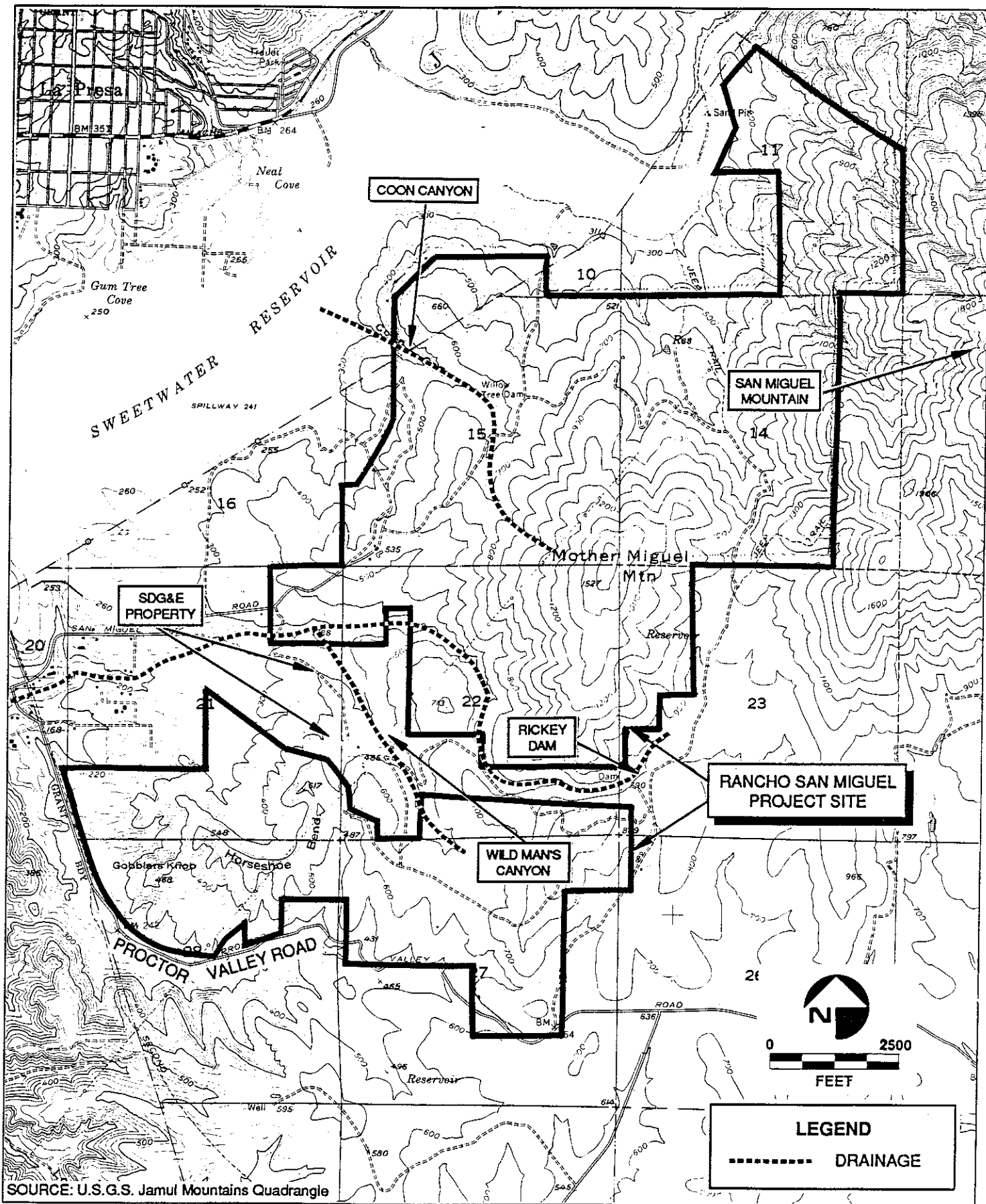
LAND USE

Current land use on the project site consists of mostly undeveloped natural vegetation on the northern portion and agricultural uses on the southern portion. The southern portion has been farmed for non-irrigated row crops and used as pasture for domesticated livestock. Portions have been previously used by a cattle/dairy operation. Buildings on the site include a caretaker's house and horse facilities in the northwestern area of the southern portion of the project site.

The project site is currently surrounded by undeveloped natural lands. Property adjacent to the northern portion's west and north borders are owned and managed by the Sweetwater Authority and will likely remain undeveloped. Property on the northwestern side of the northern portion is part of San Miguel Mountain. The steepness of the terrain will likely preclude development of this site. Property on the southeastern side of the northern portion is owned by the Otay Water District and may remain as natural open space.

The southern portion of the project site is partially surrounded by public lands. Property on the north is owned by San Diego Gas and Electric and property on the east is owned by the Otay Water District. These lands will likely remain undeveloped. Property south of the southern portion is undeveloped but is proposed for urban development. Lands in the





FIGURE

southwestern area adjacent to the property site have proposed open space lands contained in their development plans. When development is implemented southwest of the project site, open space areas could serve as corridors linking natural lands from the large, undeveloped Jamul Mountains, through the project area to Sweetwater Reservoir.

PHYSICAL CHARACTERISTICS

The project area is located in the Sweetwater River watershed and is part of the foothills and lower peaks of the Jamul Mountains. The project site includes all of Mother Miguel Mountain as well as the western slopes of San Miguel Mountain, up to 1,600 feet above sea level. This is the highest point on the property. The lowest point occurs at 200 feet above sea level in the most western area of the southern portion, along Proctor Valley Road.

The northern portion of the project area is characterized by steep-sided ridges and gullies on the slope of Mother Miguel Mountain. The southern portion is characterized by rolling, gently sloped hills terminating at Sweetwater Reservoir.

Regional climate is Mediterranean, with cool, wet winters and long, dry summers. The average maximum temperature is 21°C and the average minimum temperature is 13.9°C. Mean annual precipitation is 33.3 cm, with extreme year-to-year variability. Two of the biological surveys were conducted in 1989 and 1990, years in which San Diego County was experiencing lower than average precipitation.

Soils on the property are derived from metavolcanic and metasedimentary rocks of the Jurassic or Cretaceous Santiago Peak Volcanics and clay-lime soils are derived from the Pliocene Otay Formation (Bowman 1973 in PSBS, 1989). The clay-lime soil is characterized by small lenses of lime in a clay matrix and occurs around the region of Horseshoe Bend (PSBS, 1989).

METHODS AND SURVEY LIMITATIONS

Biological studies of the subject property were conducted by PSBS; the zoological observations in 1989, 1990 and 1991, and the botanical observations on various occasions between 1974 and 1989. ERCE conducted surveys in 1990 focusing on sensitive biological resources, particularly the California gnatcatcher (*Polioptila californica*) and

sensitive plant species. SEB conducted focused surveys in 1991 for Otay tarweed (*Hemizonia conjugens*).

PSBS Survey Methods

Surveys for botanical resources were conducted by Beauchamp on various occasions from 1974 to 1986, in May and July 1989, and by Reiser on November 15 and 16, 1988 (PSBS, 1989). Surveys were conducted on foot covering all slope aspects, soil types, and drainages. Habitats previously known to support sensitive plants were given particular attention. Vegetation communities, sensitive plant locations, and sensitive habitats were delineated on 1"=400' topographic maps.

Research was conducted to gather sensitive resources locality information in the vicinity of the project site. This information was obtained from previous biological surveys conducted in the immediate region (see PSBS 1989 for sources).

Zoological surveys were conducted by Lichtwardt, Merkel, Grout, Mayer, Bahr, and Harris for a total of 602 hours between November 15, 1988 and July 18, 1991. These surveys focused on determining the distribution, abundance and behavior of the California gnatcatcher. Additional time was spent locating major wildlife use areas and corridors. Wildlife identifications were aided by binoculars. Species were also identified indirectly by signs such as scat, tracks, calls, nests, and burrows. Sensitive species sightings or signs were mapped on 1"=400' topographic maps. Surveys for nocturnal species were not conducted.

ERCE Survey Methods

Surveys by ERCE were conducted from March to April 1990 by Paula Jacks, David Bradney, Phil Unitt, John Konecny, John Lovio, Mary Grishaver and Barry Jones. All habitats were visited and plants and animals were identified in the field. Some voucher specimens of plant species were brought into the lab for identification.

For the vegetation surveys, ERCE used PSBS data to field verify localities and updated the vegetation maps as necessary. Numerical estimates of the sensitive plant species were made at all locations and were mapped on 1"=400' topographic maps.

All sage scrub not occupied by California gnatcatcher was identified as either potential breeding gnatcatcher habitat or foraging/post-dispersal habitat. Areas used by gnatcatchers in the late summer and fall (PSBS 1989) but not utilized during the breeding season was considered foraging/post-dispersal gnatcatcher habitat. The territories and habitats of gnatcatcher and cactus wren were mapped on 1"=400' topographical maps.

SEB Survey Methods

Focused surveys for Otay tarweed were conducted by Robert Faught and John Messina on July 24 and 25, 1991. All areas with appropriate soils were surveyed. Population densities of larger populations of Otay tarweed were estimated based on subsamples of smaller areas within the larger populations. Mapping of Otay tarweed was completed on 1"=400' topographic maps.

Collections of Otay tarweed were taken to the San Diego Natural History Museum for verification, and voucher specimens have been retained at the museum for reference.

SEB also confirmed wetland delineation limits completed by PSBS, and made adjustments in wetland boundaries where appropriate.

Nomenclature for this report is from the following sources: Flora, Beauchamp (1986) or Munz (1974); vegetation, Holland (1986); amphibians and reptiles, Jennings (1983); birds, American Ornithologist Union (1986); mammals, Jones et al. (1982).

Survey Limitations

Surveys conducted during drought conditions may preclude detection of some plant and invertebrate species that are able to remain dormant until increased rainfall improves environmental conditions. Infrequently occurring plant species may not have been detected because survey coverage was not 100%.

Daylight surveys preclude observations of nocturnal wildlife species. Surveys for infrequently occurring wildlife species may not have been detected because survey coverage was not 100%. Seasonally occurring species may not have been detected due to the timing of some of the surveys.

RESULTS

Results of PSBS, ERCE and SEB studies are combined and reflect the most recent information obtained by these sources. Results of the ERCE and SEB surveys supplement PSBS studies by adding to or refining their results. Information from all three sources regarding California gnatcatchers and their habitat are compared and contrasted.

Vegetation

Although previous human land uses and cyclic fires have caused a disturbed aspect in portions of the vegetation, a majority of the northern section of the site retains high quality native vegetation communities. Much of the southern portion has been heavily disturbed by agricultural practices. Although the northern portion of the property was extensively burned in the 1970 Laguna fire, plant communities recovered to a recognizable state by 1974 (Beauchamp and Rieger 1974). Notable unburned areas include the 980-foot hill southwest of Ricky Dam covered in Diegan coastal sage scrub, and the 713-foot Trout Hill northeast of the Miguel Electrical Substation mantled by an almost pure stand of chamise (*Adenostoma fasciculatum*). Plate 2 shows the vegetation communities occurring on the project site.

Plant communities identified on the Rancho San Miguel site by ERCE follow Holland (1986) and include PSBS community designation equivalents identified in parentheses:

- Southern Mixed Chaparral (Mixed Chaparral),
- Diegan Coastal Sage Scrub (Diegan Phase of Inland Sage Scrub),
- Dry Marsh/Riparian Scrub (Dry Marsh/Wetland),
- Riparian scrub, mulefat association (Mulefat Scrub Riparian),
- Non-native Grassland, and
- Disturbed Valley Needlegrass Grassland (Non-native grassland/clay lens).

Floral nomenclature used throughout this report follows that of Munz (1974) and Beauchamp (1986) while common names in most cases follows Higgins (1949).

Diegan Coastal Sage Scrub

Diegan coastal sage scrub is comprised of low, soft-woody subshrubs (to about 1 m high), many of which are facultatively drought-deciduous. This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Dominant shrub species include California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*). The bulk of the subject property is covered by Diegan coastal sage scrub.

On the less isolated, north-facing slopes, toyon (*Heteromeles arbutifolia*), scrub oak (*Quercus dumosa*), and spiny redberry (*Rhamnus crocea*) are found mixed with California sagebrush, white sage, lemonade-berry (*Rhus integrifolia*), and golden yarrow (*Eriophyllum confertiflorum*), suggesting a chaparral/Diegan sage scrub ecotone. Portions of the steeper north facing slopes supported sage scrub dominated by lemonade-berry (*Rhus integrifolia*) and spiny redberry. South facing slopes had significant stands of San Diego viguiera (*Viguiera laciniata*). For mapping purposes, however, these areas are mapped as Diegan coastal sage scrub due to the dominance of plants associated with that plant community. Several areas of sage scrub have been heavily grazed and previously burned but are in the process of natural successional recovery. Diegan coastal sage scrub occupies approximately 1922 acres on-site.

Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved, sclerophyllous shrubs between 1.5 to 3 m tall and form dense, often nearly impenetrable stands. The plants of this association are typically deep-rooted. There is usually little or no understory, except in openings where considerable leaf litter accumulates. This habitat typically occurs on dry, rocky, often steep north-facing slopes with little soil. It may lie adjacent to chamise chaparral but grows on moist sites. Characteristic shrub species include: chamise, sugarbush (*Rhus ovata*), and mission manzanita (*Xylococcus bicolor*).

Southern mixed chaparral on-site is restricted to small areas on the higher portions of the hills and slopes. Aside from the unburned chamise stand on Trout Hill, chaparral was encountered at four locations on Mother Miguel Mountain and also at the eastern boundary of the site. Southern mixed chaparral occupies approximately 109 acres on-site.

Chamise Chaparral

Chamise chaparral is dominated by chamise (*Adenostoma fasciculatum*), almost to the exclusion of all other plants. This habitat occurs on shallower, drier soils or at somewhat lower elevations than mixed chaparral. In mature stands, the shrubs are densely interwoven, and there is very little herbaceous understory or leaf litter. Approximately 23 acres on Trout Hill is occupied by this community.

Wetlands

The three reservoirs on the property and five primary drainages contain various shoreline and sub-emergent flora adapted to high alkalinity and seasonal water deprivation which is described as dry marsh/riparian scrub habitat. The reservoirs were dry most of the year during the 1989 and 1990 surveys, but were filled and overflowing during 1991 surveys. The aquatic plants found in these water bodies are not in themselves rare, but such situations in San Diego County are. The littoral or shoreline vegetation is mostly adventive, except for San Diego marsh-elder (*Iva hayesiana*), a local endemic species which visually dominates most of the drainages with its dark, blue-green coloration. Also present in abundance in these drainages is southwestern spiny rush (*Juncus acutus*). The littoral associations are subject to complete desiccation during summer months. Seepage from the larger impoundments, however, stimulates scattered mulefat (*Baccharis salicifolia*), willow (*Salix* sp.) and tamarisk (*Tamarix* sp.) invasions into these associations.

Riparian scrub, mulefat association varies from a dense, broad-leafed, winter-deciduous association dominated by willow species to a depauperate herbaceous scrub dominated by mulefat. Mulefat-dominated scrub habitat associations typically occur along intermittent streams with a fairly coarse substrate and a moderately deep water table. The mulefat association of riparian scrub habitat is found in scattered locales along ephemeral streambeds and reservoirs on-site. The dominance by mulefat is indicative of a mesic condition, but one that is not sufficient for substantial riparian growth. Drainages with impoundments on-site have this low-grade or incipient wetland vegetation both upstream and downstream of the retention basins. The off-site road area is dominated by this mulefat scrub association and supports scattered clusters of arroyo willow (*Salix lasiolepis*).

Wetland habitat, including the riparian scrub, mulefat association and the dry marsh/riparian scrub habitat, occupies approximately 13.1 acres on-site.

Non-native Grassland

Non-native grassland is a sparse to dense cover of annual grasses often associated with numerous species of showy-flowered, native annual perennial forbs, especially in years of high rainfall. This association occurs on fine-textured, usually clay soils, which are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. The sedimentary formations on the lower, western portion of the site are now non-native grasslands due to prior grazing, past fires and, to a minor degree, the presence of clay soils. The non-native grassland is composed of species originating from the Mediterranean region including: wild oat (*Avena barbata*), foxtail (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), field mustard (*Brassica geniculata*), and vinegar weed (*Trichostema lanceolatum*). Several native elements also occur, including tarplant (*Hemizonia fasciculata*) and telegraphweed (*Heterotheca grandiflora*). Non-native grassland occupies approximately 506 acres on-site.

Disturbed Valley Needlegrass Grassland

Disturbed valley needlegrass grassland occurs in the northeastern area of the site and occupies approximately 16 acres. Purple needlegrass (*Stipa pulchra*) occurs over scattered portions of this habitat. Soils are composed of a clay lens. The original composition of the native grassland on this site is unknown but the increased number of non-natives reduces the quality of the native grassland to a disturbed condition. If disturbances increase or the types of disturbances change, the habitat could be converted to a non-native grassland. There are substantial bulbous plant populations including; wild hyacinth (*Dichelostemma pulchellum*), wild onion (*Allium praecox*), golden stars (*Bloomeria crocea*), the rare Cleveland's golden star (*Muilla clevelandii*), and variegated dudleya (*Dudleya variegata*).

Flora

A total of 247 species of plant taxa were observed on the site by PSBS (1989), of which, 62 were non-native. A floral species list is included in the PSBS survey report (1989). An additional 20 species of plant taxa were observed by ERCE during site surveys, of which two were non-native.

Wildlife

A total of 131 vertebrate species were observed during the two studies. A wildlife species list is included in the PSBS report (1989). The value of a site to wildlife is dependent on physical and biological factors:

- physical and biological diversity (these are especially important);
- location relative to other land uses (e.g., adjacent to natural open space);
- the quality of habitat on and adjacent to the site; and
- the uniqueness of the habitat in relation to the project vicinity.

The project site has excellent wildlife value because it meets all of these criteria. The unique soils (i.e., clay lens soil) and varying topography help create a diversity of habitats on-site that are contiguous with open space areas outside of the property boundaries. Mount Miguel remains relatively undisturbed to the east.

Large mammal movement corridors exist on the project site, primarily in the northern section, crossing generally through the site leading from Mother Miguel Mountain and Otay Mesa to the Sweetwater Reservoir (Plate 3). Current scientific literature describes areas of open space and their connections as an integral part of the maintenance of biological diversity and population viability. The project site is part of a larger, natural open space system that exists from Sweetwater Reservoir to the Jamul Mountains to the east. As a part of this natural, connected system, the site acts as an important link in the maintenance of biodiversity and long-term survival of species in the areas south and north of the project site.

Habitat adjacent to Rancho San Miguel and the Sweetwater Reservoir is considered very important for wildlife. The Sweetwater Reservoir and its adjacent mudflats and upland areas are one of the most attractive areas for birds and other forms of wildlife remaining in coastal San Diego County. Everett (1979) recorded 174 species of birds from the area. Some of these are now rare or are of very local distribution in southern California. The reservoir is the only known breeding location of western and Clark's grebes (*Aechmophorus occidentalis occidentalis* and *A. o. clarkii*) in San Diego County and contains the largest breeding populations of these grebes in southern California. The

reservoir represents an important waterfowl wintering area and the surrounding mudflats offer excellent habitat for shorebirds and wading birds.

Portions of the project site have been disturbed by past agricultural practices, thereby reducing their value for wildlife by reducing diversity of vegetation types, microtopography, and plant species. Additionally, portions of the Diegan coastal sage scrub have not fully recovered from the fire in 1985. A majority of the site, however, remains a significant resource for wildlife in the project vicinity.

Amphibians

Four amphibian species were detected during the project surveys. Amphibians found on the project site focused on water sources and drainages, included California toad (*Bufo boreas*), California slender salamander (*Batrachoseps pacificus*), bullfrog (*Rana catesbiana*), and western spadefoot (*Scaphiopus hammondi*).

Reptiles

Twelve species of reptiles were detected by PSBS biologists during previous surveys (PSBS 1989). The western whiptail (*Cnemidophorus tigris*) and side-blotched lizard (*Uta stansburiana*) were the most frequently observed lizards.

Birds

A total of 102 species of birds were detected by PSBS and ERCE biologists. Common resident species of the Diegan coastal sage scrub on-site include: Anna's hummingbird (*Calypte anna*), California quail (*Callipepla californica*), California gnatcatcher, Bewicks wren (*Thryonanes bewicki*), California thrasher (*Toxostona redivivum*), rufous-sided towhee (*Pipilo erythrophthalmus*), wrentit (*Chamaea fasciata*), California towhee (*Pipilo crissalis*), and lesser goldfinch (*Carduelis psaltria*).

Thirteen species of raptors were detected flying over or foraging on-site. Common raptor species detected include: black-shouldered kite (*Elanus caeruleus*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*). Golden eagle (*Aquila chrysaetos*) was regularly detected by PSBS and ERCE biologists, and PSBS (1989) noted two historical nest sites near the site's eastern

boundary, one of which is just inside the boundary of this project area and the other is on the property owned by the Otay Water District several feet away. Both of these sites have been confirmed as historic eagle nest locations (T. Scott pers. comm. to PSBS). Common nocturnal raptors probably using habitat on the site are great horned owl (*Bubo virginianus*) and common barn owl (*Tyto alba*).

Typical wintering or migratory species detected on the site include: Allen's hummingbird (*Selasphorus sasin*), Vaux's swift (*Chaetura vauxi*), Say's phoebe (*Sayornis saya*), yellow-rumped warbler (*Dendroica coronata*), Wilson's warbler (*Wilsonia pusilla*), white-crowned sparrow (*Zonotrichia leucophrys*), and black-chinned sparrow (*Spizella atrogularis*).

Mammals

Fifteen species of mammals were detected on the project site by PSBS biologists (PSBS 1989). Mammal species observed and normally associated with the project area include: Virginia opossum (*Didelphis virginiana*), desert cottontail (*Sylvilagus audubonii*), black-tailed hare (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), San Diego pocket mouse (*Perognatus fallax*), Pacific kangaroo rat (*Dipodomys agilis*), deer mouse (*Peromyscus maniculatus*), desert woodrat (*Neotoma lepida*), dusky-footed woodrat (*Neotoma fuscipes*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), and mule deer (*Odocoileus hemionus*).

Eight large mammalian predators occur, or could occur, in the vicinity. The study site is part of a large expanse of natural area which allows species such as mountain lion (*Felis concolor*), bobcat, and gray fox, to persist in the project area. Bobcats are relatively common in brushland habitat in San Diego County (Lembeck 1978) and are an inhabitant of the study area. Mountain lions are known to occur regularly in the San Ysidro Mountains and tracks were observed on the site. The study site is probably part of a mountain lion home range.

SENSITIVE RESOURCES

This section discusses sensitive biological resources occurring or potentially occurring on the project area. These resources are described below, in order of most sensitive listing,

within each major taxonomic group and for each habitat type. Sensitivity ratings are based on established listings used by USFWS (published in the Federal Register), or by the Fish and Game Commission, CNDDDB, and CNPS. Sensitivity listings used throughout this report and their definitions are listed in Table 1. Assessments of other sensitive species are based primarily on Tate (1986), Remsen (1979), Smith and Berg (1988), and California Department of Fish and Game (1990).

Sensitive Habitats

Sensitive habitats are vegetation communities which are considered rare within the region, or are listed by the Conservation Element of the General Plan for the County of San Diego (County of San Diego 1980), or support sensitive plants or animals. The sensitive habitats on-site are wetlands (riparian scrub/mulefat association; dry marsh/riparian scrub), Diegan coastal sage scrub, and disturbed coastal prairie (see Plate 2). Riparian habitat is considered a sensitive resource by California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS). Riparian habitat is specifically addressed by the CDFG Code Sections 1600-1606 (Streambed Alteration Agreement), and wetlands are also under the jurisdiction of the U.S. Army Corps of Engineers permit process (Reinen 1978). Riparian habitat is considered a valuable but declining resource locally and nationwide. This habitat type covered less than 0.2 percent of San Diego County in 1963 (CDFG 1965), and the amount has declined since (Oberbauer, 1990).

Wetlands

The wetland habitats (13 acres) on Rancho San Miguel and nearby off-site areas are of low to medium quality. Three dirt reservoirs and five primary drainages are found on the site. The reservoirs are dammed drainages; they are soil lined and were created by ranchers for livestock use. Their generally low diversity is due to the lack of long-term water sources and grazing damage to the vegetation and streambeds. However, these ponds and associated channels are important water sources for wildlife due to their placement on the otherwise dry property.

Diegan Coastal Sage Scrub

Diegan coastal sage scrub (1922 acres) is considered a sensitive habitat by the City of Chula Vista, County of San Diego, and California Natural Diversity Database (CNDDDB).

Table 1

SENSITIVITY CODES FOR PLANTS AND WILDLIFE

PLANT FEDERAL LISTED AND CANDIDATE SPECIES

FE	=	Federally listed, endangered
FT	=	Federally listed, threatened
C1	=	Enough data are on file to support the federal listing
C2	=	Threat and/or distribution data are insufficient to support federal listing
C3a	=	Extinct
C3c	=	Too widespread and/or not threatened

STATE LISTED SPECIES

CE	=	State listed, endangered
CT	=	State listed, threatened
CR	=	State listed, rare
CP	=	California Fully Protected, Fish and Game Code

CALIFORNIA NATIVE PLANT SOCIETY

Lists		R-E-D Codes	
1A	= Species presume extinct	<u>R (Rarity)</u>	
		1	= Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
1B	= Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.	2	= Occurrence confined to several populations or to one extended population.
2	= Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.	3	= Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.
3	= Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.	<u>E (Endangerment)</u>	
		1	= Not endangered
		2	= Endangered in a portion of its range
		3	= Endangered throughout its range
4	= A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.	<u>D (Distribution)</u>	
		1	= More or less widespread outside California
		2	= Rare outside California
		3	= Endemic to California

Table 1 (Continued)

SENSITIVITY CODES FOR PLANTS AND WILDLIFE

WILDLIFE FEDERAL LISTED AND CANDIDATE SPECIES

E	=	Federally listed, endangered
T	=	Federally listed, threatened
C1	=	Enough data are on file to support the federal listing
C2	=	Threat and/or distribution data are insufficient to support a formal declaration
C3a	=	Extinct
C3c	=	Too widespread and/or not threatened

STATE LISTED SPECIES

E	=	State listed, endangered
T	=	State listed, threatened
CFP	=	California Fully Protected (CDFG)
SC	=	Species of Special Concern (Remsen or Williams)

OTHER

SDHS	=	Considered threatened by San Diego Herpetological Society
BL	=	Audubon Society Blue List (Tate 1986), a listing of bird species considered sensitive because their populations have been decreasing and they have suffered habitat loss
EVE	=	Everett (1979)

Oberbauer (1990) estimated approximately 72 percent of the original acreage of this habitat in the County has been lost, primarily because of urban expansion along the coast. Additional evidence of the decline of this once common habitat is the decreasing number of plant and animal species associated with it. Very little coastal sage scrub lies in areas designated as permanent natural open space (i.e. Bureau of Land Management, U.S. Forest Service, and County natural parks).

Disturbed Valley Needlegrass Grassland

Disturbed valley needlegrass grassland (approximately 15 acres) located in the eastern non-native grassland area, contains several sensitive plants and supports native perennial grass species. Native grassland habitats are considered sensitive by the County of San Diego and CNDDDB (1990). Valley needlegrass grassland on the project site has been affected by the invasion of non-native annual grass species and disturbed by the Otay Water District reclaimed waterline and patrol road. However, much of the habitat components are still intact.

Sensitive Plant Species

Sensitive plants include those listed by USFWS (1989), CDFG (1990), and California Native Plant Society (Smith and Berg 1988). The CNPS Listing is sanctioned by CDFG and essentially serves as it's list of "candidate" species for threatened or endangered status. A list of sensitive plant species detected on-site or known from the region is provided in Table 2. Plate 2 shows locations of some of the sensitive plant species found during the surveys. See Table 1 for an explanation of the CNPS Codes and USFWS designations.

Observed Sensitive Plant Species

The PSBS survey (1989) of Rancho San Miguel detected eight plant taxa considered sensitive by resource agencies. The ERCE surveys (1990) detected five additional sensitive species and additional populations of some of the sensitive species detected by PSBS (1989). SEB surveys found one additional sensitive species in 1991. A summary of pertinent information data on each sensitive species detected is given below along with the species' rarity-endangerment code as established by the CNPS.

Table 2
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			
	Federal	State	CNPS	Likelihood of Occurrence/Notes
<i>Acanthamintha ilicifolia</i> San Diego Thorn mint	C2	CE	List 1B R-E-D Code 2-3-2	Requires clay soil. May occur in clay lens area onsite.
<i>Adolphia californica</i> California adolphia	—	—	List 2 R-E-D Code 1-2-1	Detected.
<i>Ambrosia chenopodiifolia</i> San Diego bur sage	—	—	List 2 R-E-D Code 2-2-1	Typically found on mesas and open slopes in the southern coastal area. Not expected onsite.
<i>Ambrosia pumila</i> San Diego ambrosia	C2	—	List 1B R-E-D Code 3-2-2	Typically found in valleys and disturbed areas in CSS and foothill grassland habitats. May occur onsite.
<i>Arctostaphylos otayensis</i> Otay Manzanita	C2	—	List 1B R-E-D Code 3-2-2	Known from San Miguel Mountain area. Typically found in chaparral above 1100 m. Unlikely to occur onsite.
<i>Artemisia palmeri</i> San Diego sagewort	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Astragalus deanei</i> Dean's milk vetch	C2	—	List 1B R-E-D Code 3-2-3	Typically found in chaparral habitat and open areas. May occur onsite.
<i>Calamintha chandleri</i> San Miguel Savory	C2	—	List 4 R-E-D Code 1-1-2	Associated with shaded oak woodlands. Unlikely, although may occur in north-facing chaparral habitat onsite.
<i>Calochortus dunnii</i> Dunn's mariposa lily	C2	CR	List 1B R-E-D Code 2-2-2	Known from San Miguel Mountain area above 1000 m. Unlikely, although may occur in chaparral habitat onsite.

Table 2 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Chamaebatia australis</i> Southern mountain misery	—	—	List 4 R-E-D Code 1-1-1	Known from San Miguel Mountain area. Unlikely, although may occur in chaparral habitat onsite.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> Summer holly	—	—	List 1B R-E-D Code 2-2-2	May occur in chaparral habitat onsite.
<i>Cupressus guadalepensius</i> ssp. <i>forbesii</i> Tecate cypress	—	—	List 1B R-E-D Code 2-2-2	May occur in chaparral habitat onsite, although not expected.
<i>Dichondra occidentalis</i> Western dichondra	C3	—	List 4 R-E-D Code 1-2-1	Detected.
<i>Dudleya variegata</i> Variegated dudleya	C2	—	List 4 R-E-D Code 1-2-2	Detected.
<i>Ericameria palmeri</i> ssp. <i>palmeri</i> Palmer's ericameria	—	—	List 2 R-E-D Code 2-2-1	May occur in CSS habitat onsite, although not expected.
<i>Eryngium aristulatum</i> ssp. <i>parishii</i> San Diego button celery	C1	CE	List 1B R-E-D Code 1-3-2	Typically found in vernal pools. Not expected onsite.
<i>Ferocactus viridescens</i> San Diego barrel cactus	C2	—	List 2 R-E-D Code 1-3-1	Detected.
<i>Fremontodendron mexicanum</i> Mexican flannelbush	C2	CR	List 1B R-E-D Code 3-2-2	Typically found in shaded canyons. May occur in chaparral habitat onsite, but not expected.
<i>Fritillaria biflora</i> California chocolate lily	—	—	Considered, but too common	Known from San Miguel Mountain area. May occur in clay soil area onsite.
<i>Harpagonella palmeri</i> var. <i>palmeri</i> Palmer's grapplinghook	—	—	List 2 R-E-D Code 1-2-1	Detected.

Table 2 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Hemizonia conjugens</i> Otay tarplant	C2	CE	List 1B R-E-D Code 3-3-2	Detected.
<i>Hemizonia floribunda</i> Tecate tarplant	C2	—	List 1B R-E-D Code 2-2-2	Typically found in channels in chaparral habitat. Not expected onsite.
<i>Iva hayesiana</i> San Diego marsh elder	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Lepechinia ganderi</i> Gander's pitcher sage	C2	—	List 1B R-E-D Code 3-1-2	Known from San Miguel Mountain. May occur in chaparral onsite.
<i>Muilla clevelandii</i> San Diego goldenstar	C2	—	List 1B R-E-D Code 2-2-2	Detected.
<i>Myosurus minimus</i> var. <i>apus</i> Little mousetail	C2	—	List 3 R-E-D Code 2-3-2	Typically found in vernal pools. Not expected onsite.
<i>Navarretia fossalis</i> Prostrate navarretia	C2	—	List 1B R-E-D Code 2-3-2	Typically found in vernal pools. Not expected onsite.
<i>Ophioglossum lusitanicum</i> ssp. <i>californicum</i> California adder's-tongue	C3	—	List 4 R-E-D Code 1-2-2	Typically on grass slopes and around vernal pools. Unlikely, but may occur onsite.
<i>Opuntia parryi</i> var. <i>serpentina</i> Snake cholla	C2	—	List 1B R-E-D Code 3-3-2	Typically found in chaparral and CSS habitat, although not expected onsite.
<i>Ribes canthariforme</i> Moreno currant	C2	—	List 1B R-E-D Code 3-1-3	Typically in shade of large rocks in chaparral habitat. Unlikely, but may occur onsite.

Table 2 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Salvia munzii</i> Munz's sage	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Selaginella cinerascens</i> Ashy spike-moss	—	—	List 4 R-E-D Code 1-2-1	Detected.
<i>Solanum tenuilobatum</i> Narrow-leaved nightshade	C2	—	List 1B R-E-D Code 3-1-3	May occur in chaparral habitat onsite, although not expected.
<i>Stipa diegoensis</i> San Diego County needle grass	—	—	List 2 R-E-D Code 3-1-1	Detected.
<i>Streptanthus bernardinus</i> Laguna Mtns. jewel flower	C3	—	List 1B R-E-D Code 2-1-3	Not expected onsite due to inappropriate habitat.
<i>Viguiera laciniata</i> San Diego County viguiera	—	—	List 2 R-E-D Code 1-2-1	Detected.

¹See Table 1 for explanation of codes

Hemizonia conjugens, Otay tarweed

USFWS: Candidate (Category 2), CDFG: Endangered, CNPS rating: List 1B, 3-3-2

This late spring-blooming (May-July) annual herb occurs only in southern San Diego County and northwestern Baja California. Within the County, Otay tarweed is found in scattered localities on clay soils and in swales from the vicinity of Sweetwater Reservoir south to the border. It is apparently equally uncommon in Mexico. The primary threat to this species is development of its habitat.

Approximately 200,000 individuals of Otay tarweed were detected during the SEB surveys. The diagnostic characters used for the identification of this species included: the number of ray and disk flowers and the fertility/sterility status of the disk flowers. In addition specimens collected from the Rancho San Miguel site were compared with specimens at the Museum of Natural History Herbarium in San Diego. Specimens collected were verified as *Hemizonia conjugens* by Dr. Geoffrey Levin, Curator, Herbarium, Museum of Natural History.

Approximately 24,000 individuals of Otay tarweed were detected in the southwestern portion of the northern parcel of the site. There were five populations of approximately 1,000 individuals each with the largest population composed of approximately 10,000 individuals.

Approximately 175,000 individuals of Otay tarweed were detected throughout the western and central portions of the southern parcel of the site. In this southern parcel several extremely significant and large populations were detected. There were 30 populations of at least 1,000 individuals each in the southern parcel, 6 of these populations containing at least 10,000 individuals each. A population of approximately 50,000 individuals was detected in Horseshoe Bend; another population of approximately 50,000 individuals was detected adjacent to the SDG&E substation on Proctor Valley Road; two populations of 10,000 individuals each on the mesas in the central portion of the southern parcel and another population of approximately 10,000 individuals along the southern boundary of the central portion of the southern parcel adjacent to Proctor Valley Road.

**Ferocactus viridescens*, Coast Barrel Cactus

*USFWS: Candidate (Category 2), CNPS rating: List 2, 1-3-1

Coast barrel cactus is limited to San Diego County and Baja California. In San Diego County, this species is occasional on dry slopes below 1500 m (4922 ft) and is found

along the coastal slope from Oceanside south to Boundary Monument. Coast barrel cactus is seriously threatened by urbanization, off-road vehicles, and commercial exploitation. This species is abundant on south-facing exposures of the site (Plate 2). Two of the more impressive populations, consisting of approximately 1,240 and 1,400 plants, are located in the northern-central and southeastern portions of the site, respectively. A total of approximately 8,000 individuals occur on-site.

**Dudleya variegata*, Variegated Dudleya

*USFWS: Candidate (Category 2), CNPS rating: List 4, 1-2-2

This species is restricted in distribution to southern San Diego County and northwestern Baja California. According to the CNPS, it occurs (overall) in sufficient numbers that immediate threat of extinction or extirpation is unlikely. However, it appears that this species is actually more restricted in range and more threatened than indicated by its current status by CNPS (Smith and Berg 1988). For example, the northern limits of the species are now Miramar NAS (PSBS 1982), Ralph's Ranch (Wier Biological 1983), Poway (at Lou Grubb Chevrolet, C. Patterson, personal communication), and a small population at Rancho Arbolitos (PSBS 1981). The population at Rancho Arbolitos may now be extirpated, since a development was planned for the area. The species occurs away from the coast and usually grows in areas vulnerable to development such as gently rolling terrain, rather than at sites at which it might be more easily protected (i.e., peaks). At the current time, the only "protected" sites for variegated dudleya are at the Naval Radio Receiving Facility towers in Imperial Beach and possibly on Miramar Naval Air Station. The southern San Diego County region remains one of this species' principle distributional locations. This bulbous, ephemeral succulent was found in the earlier survey (PSBS 1989) of Rancho San Miguel in the coastal prairie habitat.

**Muilla clevelandii*, Cleveland's Golden Star

*USFWS: Candidate (Category 2), CNPS rating: List 1, 2-2-2

Cleveland's golden star is found only in southwestern San Diego County and northwestern Baja California. This spring-blooming (March-May), herbaceous perennial occurs infrequently in clay soils on dry mesas and hillsides in coastal sage scrub or chaparral. Primary threats to this species are illegal dumping, ORV's, and urbanization (Smith and Berg 1988). Indeed, a survey of herbarium specimens of this plant collected in the past century and deposited at the San Diego Natural History Museum indicates that few locations still exist in an undeveloped state or condition otherwise suitable for supporting populations of this plant. This bulbous plant occurs in abundance in the valley needlegrass

grassland area on-site. This plant is very rare due to coastal development, and this locale is considered a very important site within the plant's known distributional range.

**Harpagonella palmeri* var. *palmeri*, Palmer's Grappling Hook

*CNPS rating: List 2, 1-2-1

This widely distributed, diminutive annual occurs in Los Angeles, Orange, Riverside, and San Diego counties, on San Clemente Island, in Arizona, Baja California, and Sonora, Mexico.

This species generally occurs on clay slopes and recently burned areas below 1000 m (3280 ft) elevation and flowers from February to April (Munz 1974; Wiggins 1980; Beauchamp 1986). In San Diego County, it is reported from Guajome Mesa, Rancho Santa Fe, Olivenhain, Poway Grade, Kearny Mesa, Emerald Hills, Mission Gorge, Otay, Dehesa, Rice Canyon, Table Mountain, and Box Canyon (Beauchamp 1986). ERCE (1990) detected three major populations within the central-western and southern portions of the site, one consisting of approximately 10,000 plants (Plate 2). This is considered a large population for the San Diego County region. In addition, SEB found a small area of 300 individuals along the western boundary in the northern section.

**Adolphia californica*, California Adolphia

*CNPS rating: List 2, 1-2-1

This winter to spring-blooming (December-May) shrub is known from western San Diego County and northwestern Baja California. It generally occurs on clay soils, in dry canyons and washes in chaparral and sage scrub below 300 m (965 ft) elevation. Reported localities in the County include Morro Hill, Agua Hedionda, Rancho Santa Fe, Mount Soledad, Bernardo, Chollas Valley, Barrett Junction, Proctor Valley, and Otay (Beauchamp 1986). A population consisting of several hundred plants of this green-stemmed shrub was discovered on the knoll, south of the Miguel Substation. Additional populations are located in the northern, northwestern, and southern portions of the site (Plate 2). An additional significant population occurs just off-site to the north on the Rancho San Diego property (WESTEC 1988).

**Artemisia palmeri*, Palmer Sagebrush, San Diego Sagewort

*CNPS rating: List 2, 2-2-1

San Diego sagewort a summer-blooming (June-September) suffrutescent perennial that occurs below 600 m (1931 ft) elevation in coastal sage scrub in southwestern San Diego County and northern Baja California (Munz 1974). Reported localities include La Jolla

and Pacific Beach east to Mount Woodson, San Vicente Creek, Jamul, Harbison Canyon, Alpine, and Whispering Oaks, and south to Otay and Telegraph Canyon (Beauchamp 1986). A single population of this species was located in the earlier survey (PSBS 1989) in a rocky outcrop on the western flank of San Miguel Mountain, just inside the Rancho San Miguel boundaries.

**Iva hayesiana*, San Diego-Marsh Elder, San Diego Poverty Weed

*CNPS: List 2, 2-2-1

This perennial subshrub occurs in southwestern San Diego County and northern Baja California (Munz 1974). It is frequent in low-lying, moist or alkaline places along the coast and has been recorded along intermittent streams. Although rare in the County, this species is apparently more common and widespread south of the border. Reported localities include Rancho Santa Fe, Miramar Reservoir, Penasquitos Canyon, Alvarado Canyon, Proctor Valley, La Presa, Otay, Tijuana River Valley, and Otay Mesa (Beauchamp 1986). *Iva hayesiana* is threatened primarily by waterway channelization and development. This stream-side shrub is frequent in drainages on the site, especially in Wild Man's Canyon in the central portion of the site. Additional populations were detected in wetlands in the northern, central-western, and southern portions of the site (Plate 2).

**Salvia munzii*, Munz's Sage

*CNPS rating: List 2, 2-2-1

Munz's sage is a small shrub which occurs frequently below 500 m (1640 ft) elevation in coastal sage scrub in the south foothill and coastal region of San Diego County. Reported localities for this species include San Miguel, Jamul, and Otay mountains, Dictionary Hill, Proctor Valley, and Lower Otay Lake (Beauchamp 1986). This blue-flowered sage reaches its northern distributional limit on the north flank of San Miguel Mountain and on Dictionary Hill near the site. Munz's sage was observed on the western flank of San Miguel Mountain as well as near the dry reservoir along Proctor Valley Road. ERCE identified additional populations in the northern and southern portions of the site (Plate 2).

**Selaginella cinerascens*, Mesa Clubmoss

*CNPS rating: List 2, 1-2-1

This prostrate, moss-like plant occurs in San Diego County and northwestern Baja California. It is still relatively abundant in coastal areas, occurring on flat mesas that are prime locations for development, such as Mira Mesa and Tierrasanta. Development of these areas has caused destruction of the habitat of this species. Mesa clubmoss typically

occurs within coastal sage scrub and chaparral habitats (Smith and Berg 1988). On the project site this species was commonly occurring in openings within the scrub habitat.

**Stipa diegoensis*, San Diego County Needle Grass

*CNPS rating: List 2, 3-1-1

This perennial bunchgrass occurs locally along vernal streams and on clay soils between 300 and 700 m (984 to 2297 ft) elevation. This species is known from the upper slopes of Jamul and McGinty mountains, as well as Proctor Valley, Lee Valley, and Otay Mountain (Beauchamp 1986). A small population of this species was detected by ERCE on Mother Miguel Mountain in the eastern portion of the site.

**Viguiera laciniata*, San Diego Sunflower

*CNPS rating: List 2, 1-2-1

This species occurs in southern San Diego County and northwestern Baja California. In San Diego County, San Diego sunflower occurs from the international border north to about Santee and extends from the seacoast east, at a few localities where habitat remains, to about Crest. The primary threat to this species is urbanization. San Diego sunflower is a yellow-flowered, spring-blooming (January-July), xerophytic shrub that occurs in coastal sage scrub. This is a common component of drier slopes dominated by sage scrub in the project area, south to the international border. San Diego sunflower is abundant on the project site particularly in the northern and southern portions on steeper, dryer slopes (Plate 2).

**Dichondra occidentalis*, Western Dichondra, Pony Foot

*USFWS: Candidate (Category 3c), CNPS: List 4, 1-2-1

This perennial herb generally occurs on dry, sandy banks in coastal sage scrub, chaparral, or southern oak woodland, and often proliferates on recently burned slopes. The species is found in coastal San Diego and Orange counties, on some of the Channel Islands, and in northern Baja California. In San Diego County, it occurs north to Agua Hedionda and La Costa and south to the border. ERCE detected a single population of western dichondra on Mother Miguel Mountain in the eastern portion of the site. This species may be scattered throughout other portions of the site, but is easily overlooked.

**Juncus acutus* var. *sphaerocarpus*, Spiny rush

*CNPS rating: List 4, 1-2-2

Spiny rush, a stout and rigid perennial with pungent stems, occurs among coastal salt marshes and inland alkaline sinks. This species is found throughout San Diego County and extends north into San Luis Obispo County, Santa Catalina Island and into the Colorado desert. This species was recently included among the CNPS listing of sensitive plant species, and is threatened by urbanization. Approximately 200 individuals of spiny rush were detected within the project site along a small tributary in the southern portion of the site, and another 200 individuals in the northern section. Scattered individuals were found in drainages in the north.

Potentially Occurring Plant Species

Several additional sensitive plants are known from the region (Reveal 1985, Smith and Berg 1988), but were not detected on-site. A summary of these species are found in Table 2. Due to the proximity of Rancho San Miguel to San Miguel Mountain and adjacent coastal mesas, the presence of several other rare and/or endangered plant taxa on the site is possible. A short description of these species and their potential to occur on the site are described in this section.

**Acanthomintha ilicifolia*, San Diego Thorn-mint

*USFWS: Candidate (Category 2); CDFG: Endangered; CNPS rating: List 1, 3-3-2

San Diego thorn-mint is restricted to San Diego County and Baja California. This spring-blooming (April-May) annual plant occurs in clay depressions on mesas and slopes below 300 m (965 ft) elevation and is associated with coastal sage scrub, chaparral, and grassland. In San Diego County, the species is known from Encinitas and San Marcos south to Sweetwater and Otay lakes (Beauchamp 1986) and from higher elevations on McGinty Mountain (Oberbauer 1979a, Wier 1986).

**Astragalus deanei*, Dean's Milk-vetch

*USFWS: Candidate (Category 2); CNPS rating: List 1, 3-2-3

Dean's milk-vetch is a white-flowered, herbaceous perennial generally found on dry hillsides between 250 and 350 m (805 and 1126 ft) elevation; it often proliferates in recently burned areas. It occurs locally in open coastal sage scrub, chaparral, or southern oak woodland in southwestern San Diego County, to which it is endemic, and is known from Whispering Oaks, Rice Canyon, Barrett Lake, and Tecate Road (Beauchamp 1986).

A substantial population also occurs along Willow Glen Road (Wier 1986). This species blooms from March through May.

**Ophioglossum californicum*, California adder's tongue

**USFWS*: Candidate (Category 3c), *CNPS* rating: List 4, 1-2-2

California adder's-tongue fern is a perennial herb with a short, fleshy rhizome. This species has a discontinuous distribution from central California to San Diego County and northern Baja California. In San Diego County, it occurs below 900 m (2953 ft) elevation. Reported localities include Escondido, Olivenhain, Valley Center, Encinitas, Grossmont College, Lake Jennings, Mount Soledad, Kearny Mesa, Balboa Park, East San Diego, El Cajon Mountain, Lee Valley, Point Loma (Beauchamp 1986), Silverwood Wildlife Sanctuary, Goat Peak, and Honey Springs Ranch (H. Wier, personal observation). This species is generally detectable from December through April (Witham 1972). Typical habitat for California adder's-tongue fern is grassy, open areas, where it is generally associated with short grasses and other herbs. Although often found near vernal pools, the species can also occur in relatively dry, stony areas (Witham 1972). It apparently requires vernal moist habitat, such as vernal pools or other places with a perched water table.

**Fritillaria biflora*, California chocolate lily

**CNPS* rating: Considered but rejected, too common

California chocolate lily is a January-June flowering species with small, showy, brownish-purple flowers tinged with green. It is found in rocky clay soils in open aspects in coastal areas from Monterey to San Diego Counties below 3,000 ft. In San Diego County it is known from San Onofre Canyon to San Ysidro and has been observed on McGinty Mountain, San Miguel Mountain, Jamul, and Bonita. California chocolate lily is considered too common for consideration to be listed by *CNPS*, however, the soils in which it is found are rare in San Diego County and these areas are currently under pressure from development. It is considered rare by some local botanists (Sproul, pers. comm. 1991). This species was not observed during any of the surveys but habitat appears suitable in the clay lens area.

Several other sensitive plants are known from the area but are not expected on the Rancho San Miguel site due to inappropriate habitat conditions (Beauchamp 1986; Smith and Berg 1988). These species are:

- San Diego bur-sage (*Ambrosiachenopodiifolia*)
- San Miguel savory (*Calamintha chandlerii*)
- Dunn's mariposa lily (*Calochortus dunnii*)
- Southern Mountain misery (*Chamaebatia australis*)
- San Diego button celery (*Eryngium aristulatum* ssp. *parishii*)
- Prostate navarretia (*Navarretia fossalis*)
- Snake cholla (*Opuntia parryi* var. *serpentina*)

Sensitive Wildlife Species

Sensitive wildlife species are those listed by the USFWS (1985b; 1986), CDFG (1990; Remsen 1978; Williams 1986), and the Audubon Society Blue List (Tate 1986). A list published by Everett cites locally rare and declining species (1979). One federal and state listed endangered species, the peregrine falcon, was observed on the project site. In addition, there were three sensitive reptiles and 17 bird species detected on the project site. No sensitive invertebrates or amphibians were observed on the site. Table 3 lists species observed and potentially occurring on the project site. Plate 3 shows the localities of some sensitive species found during the surveys. The following section provides a brief summary of the status of sensitive wildlife species; both those found on the project site and those potentially occurring there.

Potentially Occurring Invertebrates

**Euphydryas editha quino*, Quino checkerspot butterfly

*USFWS: Candidate (Category 2) Petitioned for listing

Quino checkerspot is a rare butterfly, especially in San Diego County where it is considered almost extinct (Emmel and Emmel 1973). Its declining status is due to urban expansion. Adults are observed during the flight period, extending from March to April in good years. This species diapauses from April to December as half-grown larvae (Emmel and Emmel 1973) and is very difficult to detect during that period. Quino checkerspots are found on low foothills, mesas, and lake margins typically on south-facing slopes. It is always found in close association with its larval food-plants, plantain (*Plantago erecta*) and vernal pool plantain (*Plantago erecta* ssp. *rigidior*). These plantain species occur in dry open areas below 2500 feet in grasslands, open sage scrub, chaparral, and vernal pool habitats. The Quino checkerspot feeds on plantain that grows on slightly sloped surfaces that do not pond or remain wet. This species distribution extends from Los Angeles to northern Baja.

Table 3
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			Likelihood of Occurring Onsite
	Federal	State	Other	

INSECTS				
<i>Lycaena hermes</i> Hermes Copper Butterfly	C2	—	—	High: Status unknown.
<i>Euphydryas editha quino</i> Quino Checkerspot Butterfly	C2	—	—	High: Status unknown.
AMPHIBIANS				
<i>Rana aurora draytoni</i> California red-legged frog	C2	SC	SDHS	Not expected. Appropriate habitat does not occur onsite.
<i>Spea hammondi</i> Western Spadefoot				Detected.
REPTILES				
<i>Cnemidophorus hyperythrus beldingi</i> Orange-throated Whiptail	C2	SC	SDHS	Detected.
<i>Phrynosoma coronatum blainvillei</i> San Diego Horned Lizard	C2	SC	SDHS	Detected.
<i>Thamnophis couchi hammondi</i> Two-striped Garter Snake	—	—	SDHS	Detected.
<i>Anniella pulchra pulchra</i> Silvery legless lizard	—	—	SDHS	Not detected. Appropriate habitat exists.
BIRDS				
<i>Elanus caeruleus</i> Black-shouldered Kite	—	CFP	—	Occasional nonbreeding visitor.
<i>Haliaeetus leucocephalus</i> Bald Eagle	E	E, CFP	—	Low: Nonbreeding winter visitor only.
<i>Accipiter cooperi</i> Cooper's Hawk	—	SC	BL	Forages onsite, nesting nearby along Sweetwater River.

Table 3 (Continued)
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			
	Federal	State	Other	Likelihood of Occurring Onsite
<i>Accipiter striatus</i> Sharp-shinned Hawk	—	SC	BL	Detected.
<i>Buteo swainsoni</i> Swainson's Hawk	C2	I	EVE	Not detected; expected only as a very rare migrant.
<i>Buteo regalis</i> Ferruginous Hawk	C2	—	BL	Not detected; expected as a very rare winter visitor.
<i>Aquila chrysaetos</i> Golden Eagle	—	SC	—	One breeding pair.
<i>Circus cyaneus</i> Northern Harrier	—	SC	BL	Occasional; possibly one breeding pair.
<i>Falco mexicanus</i> Prairie Falcon	—	SC	—	Occasional nonbreeding visitor.
<i>Falco peregrinus</i> Peregrine Falcon	E	E	—	One observation of a presumed transient.
<i>Cathartes aura</i> Turkey Vulture	—	—	EVE	Regular but apparently not nesting. Nested at least for- merly on San Miguel Mt.
<i>Athene cunicularia</i> Burrowing Owl	—	SC	EVE	Occasional visitor, apparently not breeding.
<i>Thryomanes bewickii</i> Bewick's Wren	—	—	BL	Common.
<i>Campylorhynchus brunneicapillum</i> Cactus Wren	—	—	EVE	Eight singing birds detected by ERC; 12 territories reported by PSBS.
<i>Lanius ludovicianus</i> Loggerhead Shrike	—	—	BL	Present in small numbers.
<i>Poliopitila caerulea</i> Blue-gray Gnatcatcher	—	—	EVE	Detected apparently as a migrant only.
<i>Poliopitila californica</i> California Gnatcatcher	C2	SC	—	63 pairs detected by ERCE; 100 pairs reported by PSBS.

Table 3 (Continued)
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			Likelihood of Occurring Onsite
	Federal	State	Other	
<i>Ammodramus savannarum</i> Grasshopper Sparrow	—	—	EVE, BL	Detected
<i>Aimophila ruficeps</i> Rufous-crowned Sparrow	—	—	EVE	Detected
<i>Amphispiza belli belli</i> Sage Sparrow	—	—	BL	Detected
<i>Geococcy californianus</i> Greater roadrunner	—	—	BL	Detected
MAMMALS				
<i>Taxidea taxus</i> American Badger	—	SC	—	High: Appropriate habitat occurs
<i>Bassariscus astutus</i> Ringtail	—	CFP	—	High: Appropriate habitat occurs
<i>Macrotus californicus</i> California leaf-nosed bat	C2	SC	—	Low
<i>Plecotus townsendii pallescens</i> Pale big-eared bat	—	SC	—	Low
<i>Eumops perotis californicus</i> California mastiff bat	C2	SC	—	Low

¹ For an explanation of codes, see Table 1.

In San Diego Co. it is known from the Rancho Santa Fe area, however, much of this habitat has been converted to urban development including the known core population of Quino checkerspot. Other areas where it has been observed recently are: Dictionary Hill, Otay Lake and Otay Mesa, and lower western slopes of Otay Mountain. In years of low winter rainfall the larvae may remain in diapause for up to seven years. (Allen 1990).

Quino checkerspot butterflies were not observed during any of the surveys, however, the larval plant, plantain was found in coastal sage scrub habitat. Drought conditions occurring during the surveys may have kept the checkerspot from emerging and thus individuals would not have been detected, however, no directed searches by a qualified biologist were made on the project site. This species could be expected on the site.

**Lycaena hermes*, Hermes copper butterfly

*USFWS: Candidate (Category 2),

This species has a very restricted range. Its distribution extends from northern Baja approximately 100 mi south of the border to approximately 50 mi north of the border in San Diego Co. almost to Fallbrook. Hermes copper occurs in coastal areas to about 40 miles inland from the Pacific Ocean. It is closely restricted to its host plant, buckthorn (*Rhamnus croca*). Buckthorn is found in chaparral and coastal sage scrub communities. Hermes copper flight period extends from approximately May 20 to July 20 with most activity in late June. Existing populations are stable from year to year. (Emmel and Emmel, 1973). On the project area buckthorn was found in coastal sage scrub habitat, however, the species was not observed during any of the surveys. No directed searches by a qualified biologist were made on the project site. This species could be expected on-site.

Observed Amphibians and Reptiles

No sensitive amphibians were observed on the project site but three sensitive reptiles were observed (PSBS). Several declining reptile species are known from San Diego County. These species are considered sensitive primarily from habitat loss from urbanization. The population levels of many of these species are poorly known.

**Phrynosoma coronatum blainvillei*, San Diego horned lizard

*USFWS: Candidate (Category 2), CDFG: Species of Special Concern

The San Diego horned lizard is considered endangered by the San Diego Herpetological Society (SDHS 1980) because of habitat destruction and collecting for the pet trade. Its

distribution ranges from southwestern San Bernardino to San Diego County (Stebbins, 1966). This species occurs in San Diego County from coastal mesas to approximately 6,000 feet in relatively flat topography. It is found in open sage scrub and chaparral habitats with some bare soil areas and soils loose enough to dig burrows in which they hibernate in the winter and for egg-laying sites. San Diego horned lizards are found where harvester ants are located because ants are their major food source. Although approximately half of the historical range of this species has been extirpated, large amounts of suitable horned lizard habitat is protected in Federal, State and County lands (Brattstrom, pers. comm. Dec. 1990). Brattstrom, in his preliminary assessment of San Diego horned lizard status in California, has determined that the species is declining for unknown reasons (pers. comm. Dec. 1990). San Diego horned lizards were detected by both PSBS and ERCE biologists during their biological studies. They are expected to occur throughout all of the coastal sage scrub habitat on the site.

**Cnemidophorus hyperythrus*, orange-throated whiptail

*USFWS: Candidate (Category 2), CDFG: Species of Special Concern

The orange-throated whiptail is considered threatened by the San Diego Herpetological Society (SDHS 1980). It ranges from Orange to San Diego Counties and is also found in western Riverside County. The principal threat to this species is loss of open sage scrub, its preferred habitat. According to SDHS (1980) approximately 65% of its known range was lost by 1980. Surveys by Brattstrom indicate that few remaining areas of occupied habitat are protected in federal or state ownership (pers comm. Dec. 1990). Orange-throated whiptails are also found in open chaparral and woodland habitats. It is still locally common in many areas where habitat remains. This species could occur throughout scrub habitats on-site. Orange-throated whiptails were detected by both PSBS and ERCE biologists although in very low numbers.

**Thamnophis couchi hammondi*, two-striped garter snake

*San Diego Herpetological Society: Threatened

The two-striped garter snake ranges from central, coastal California south to northern Baja, Mexico from sea level to 8,000 feet above sea level. It occurs in aquatic habitats such as streams, lakes, fresh and brackish marshes (Stebbins 1966). In San Diego County it is found in primarily permanent water sources and semi-permanent rocky water sources (SDHS 1980). According to the San Diego Herpetological Society, this species has been depleted from many coastal riparian localities, such as Mission Valley, where formerly it

was common. One two-striped garter snake was detected in an abandoned well by PSBS biologists. Its presence on the site would be limited to the wetland habitat areas.

Potentially Occurring Amphibians and Reptiles

Amphibians have been recently receiving concern worldwide because researchers have been noticing declines in their numbers in many areas. Habitat destruction is the most obvious cause in many areas of the world. However, amphibian reductions are not as easily explained in areas where destruction is not occurring. According to a 1990 symposium on amphibians, there appear to be four factors contributing to these population declines; 1) global climatic change, 2) pollution, 3) ultraviolet radiation, and 4) habitat fragmentation (Wyman 1990). Pollution and habitat fragmentation certainly affect amphibians as California watersheds become reduced and degraded. According to Wyman (1990), amphibians are affected by habitat fragmentation because many species must migrate between aquatic and terrestrial habitats to complete their life cycle and these migration routes are frequently blocked by roads and housing developments.

Currently, CDFG and San Diego Herpetological Society are revising their lists of sensitive amphibians to reflect overall decline of amphibians in California and San Diego (CDFG, pers. comm. February 1991; SDHS pers. comm. February 1991). The San Diego Herpetological Society indicated that two out of 10 species indigenous to San Diego County were declining. In addition, a third species, the California red-legged frog has presumably been extirpated from San Diego County for 10 years (Schied, 1990, pers. comm.).

**Rana aurora draytoni*, California red-legged frog

*USFWS: Candidate (Category 2), CDFG: Species of Special Concern

The only sensitive amphibian known from the general vicinity of the project is the California red-legged frog (*Rana aurora draytoni*), which is protected by the California Department of Fish and Game (1982) and is a candidate (Category 2) for federal listing as threatened or endangered. This species frequents marshes, slow parts of streams, lakes, reservoirs, ponds, and other usually permanent water sources. It occurs primarily in wooded areas in lowlands and foothills, although it can also be found in grassland. It is particularly attracted to freshwater marsh areas with sufficient vegetative growth to provide cover and prefers cool, flowing water. No individuals of this species were observed during the surveys and none are expected due to the lack of appropriate habitat.

**Anniella pulchra pulchra*, silvery legless lizard

*San Diego Herpetological Society: Threatened

Occurs from San Francisco to northern Baja Mexico in sandy washes, beaches and loamy soils from sea level to 6,000 feet. This burrowing species has been extirpated from its former prime habitat in San Diego County, but may occur in inland areas that have not been surveyed (SDHS 1980). It frequents sparse vegetation and alluvial areas of streams where it can readily burrow in chaparral, riparian sycamore, cottonwood and oak woodlands. No silvery legless lizards were observed during the surveys. Habitat appears suitable in the wetland drainages, but its status is unknown.

Observed Birds

**Falco peregrinus anatum*, American peregrine falcon

*Federal: Endangered, State: Endangered

The peregrine falcon endangered status is due primarily to pesticide contamination. Until 1950, a few pairs nested in San Diego County. The species still occurs in southern California as a rare visitor, primarily along the coast, where it feeds on water birds. A single pair recolonized San Diego County in 1989, nesting on the Coronado Bridge. The bird seen at Rancho San Miguel by PSBS (1989) was undoubtedly a migrant. Peregrine falcons probably occur occasionally at Sweetwater Reservoir, attracted by the abundant waterfowl there, but the dry uplands of Rancho San Miguel are not their preferred habitat.

**Polioptila californica*, California gnatcatcher

*Federal: Candidate (Category 2), State: Species of Special Concern

This species is currently undergoing a status review for possible federal listing by the USFWS and State listing by CDFG. PSBS reported 92 pairs of California gnatcatchers on the Rancho San Miguel property, 27 pairs just off-site and 25 solitary males (PSBS 1989). Subsequent surveys by ERCE biologists in 1990 and PSBS spring surveys in 1991 detected 67 pairs on-site and 18 pairs just off-site (Plate 3). A total of 55 pairs and 14 pairs just off-site were observed in the northern section and 14 pairs with 4 pairs off-site were observed in the southern section. Surveys conducted for gnatcatchers at different times of the year and at different levels of intensity may explain the discrepancy between the results of the studies.

Areas utilized by gnatcatchers primarily in late summer and early fall were considered feeding/dispersal gnatcatcher habitat. Gnatcatchers observed in the early spring were

considered breeding pairs. For purposes of determining breeding habitat use areas, it was assumed that locations of birds during the breeding season represented the center of that particular bird's territory. Breeding habitat was then assumed to include the area within a 20-acre circle, using the gnatcatcher sighting as the center of the circle. Breeding habitat consists of 837 acres. Habitat not used by the species during the surveys, but appearing appropriate, was considered potential breeding habitat and consists of 179 acres. These habitat areas are depicted in Plate 3.

**Campylorhynchus brunneicapillus*, cactus wren

Recent taxonomic work indicates the coastal population of this species in San Diego County may be a separate subspecies (Rea and Weaver, 1991). However this proposed change in the cactus wren taxonomy has not received official sanctioning by the American Ornithologist Union. The coastal population has been reduced to approximately 400 pairs in the U.S. and 200 pairs in San Diego County, and nearly all known colonies are threatened by proposed developments (Rea and Weaver 1991). A decline of the species now known to be in the range of the San Diego cactus wren had been noted over 45 years ago by Grinnell and Miller (1944). The San Diego cactus wren occurs only in thickets of cholla and prickly pear cactus in coastal sage scrub; the wrens place their large nests only in these cacti. The known range of the San Diego cactus wren extends from the drainage basin of the Tijuana River in extreme northwestern Baja California (southernmost locality, Valle de las Palmas south of Tecate) north through coastal San Diego County and an undetermined distance into southern Orange and western Riverside counties (specimens from those regions have never been collected).

PSBS and ERCE results were combined and are shown in Plate 3. A total of 13 cactus wren territories occur on the site.

**Elanus caeruleus*, black-shouldered kite

**State: Fully Protected*

The black-shouldered kite is still fairly common in San Diego County. It nests typically in riparian or oak woodland adjacent to grassland, where it hunts rodents. Apparently uncommon in the county in the 19th century, the kite was extirpated from 1892 to 1920 but subsequently recolonized. The population increased rapidly from 1930 to 1960, but the increase has leveled off. During the nesting season kites need undisturbed woodland with adjacent open country for foraging. The population may decline again as development of the coastal lowland continues. PSBS (1989) biologists noted the species as "occasional" at

Rancho San Miguel. There are no trees suitable for kite nesting there, but the species very likely nests a short distance to the north in the riparian woodland along the Sweetwater River and uses Rancho San Miguel to some degree for foraging.

**Accipiter cooperii*, Cooper's hawk

***State: Species of Special Concern**

Cooper's hawk, a third-priority species of special concern to the California Department of Fish and Game (1978), nests primarily in oak woodlands but occasionally in willows or eucalyptus. It disperses widely outside its breeding season, which is from late March through June. It has declined as a breeding species in California because of destruction of riparian woodland and possibly contamination with pesticides. As with the black-shouldered kite, PSBS (1989) biologists noted Cooper's hawk as "occasional" at Rancho San Miguel. Cooper's hawks are known to nest in riparian woodland on the Sweetwater River (Unitt 1984, WESTEC 1987) and would use the essentially treeless habitat of Rancho San Miguel for foraging only. The species would be most frequent at Rancho San Miguel in winter, when migrants from the north augment the local breeding population.

**Accipiter striatus velox*, sharp shinned hawk

***State: Species of Special Concern**

The Sharp-shinned hawk is considered a species of special concern by the CDFG because of declines in its breeding range (Remsen 1978). This species occurs in San Diego County as an uncommon migrant and winter visitor only. It was observed twice by PSBS biologists during winter 1991 and was observed flying over the northern section of the property. Sharp-shinned hawks are expected to make limited seasonal use of habitat on the site.

**Aquila chrysaetos*, golden eagle

***State: Species of Special Concern**

The golden eagle is protected under the Bald Eagle Protection Act and is considered a third-priority species of special concern (Remsen 1978). The population nesting in San Diego County has declined 23% from its historical level of 1981 (T. Scott in Unitt 1984), and the decrease has accelerated since (J. Oakley personal communication). Golden eagles forage in grassy and open shrubby habitats and nest most often on cliffs, less often in trees. In southern California, the golden eagle is threatened by urban and agricultural development of its foraging areas and human disturbance of its nest sites. One pair was noted regularly

at Rancho San Miguel by both PSBS and ERCE biologists, and PSBS (1989) noted two historic nest sites near the property's eastern boundary in tall eucalyptus trees, one within the property and another just outside (Plate 3). Presumably the pair observed on-site maintains nest sites on cliffs on San Miguel Mountain. In addition, ERCE biologists noted an immature golden eagle soaring over the northwestern part of Rancho San Miguel on 23 March and 13 April 1990. The extensive foraging habitat afforded by the open space of Rancho San Miguel and other large south county parcels is likely to be critical to these eagles.

**Circus cyaneus hudsonius*, northern harrier

***Federal: Sensitive Species, State: Species of Special Concern**

The northern harrier is considered as declining in San Diego by Everett (1979), and it is on the Audubon Society's Blue List (Tate 1986). The Blue List is a listing of bird species considered sensitive because they have been noted as decreasing in their populations and the species has suffered habitat loss. Northern harrier is still fairly common and widespread as a migrant and winter visitor but has become very scarce as a breeding species in San Diego County. Its preferred habitats are grasslands, agricultural fields, and coastal marshes, and it is threatened by the continuing urbanization of these habitats. The species is known to nest just east of Rancho San Miguel in Proctor Valley (Unitt 1984), and PSBS (1989) reported seeing a pair during the breeding season. ERCE's observation of a male on 6 April 1990 also suggests that harriers breed on Rancho San Miguel in very small numbers. The northern harrier places its nest on the ground in grassland, marsh, or open sage scrub.

**Falco mexicanus*, prairie falcon

***State: Species of Special Concern**

The prairie falcon, a third-priority species of special concern, has declined largely because of human disturbance of nest sites (Remsen 1978). It forages widely in desert and grasslands during its nonbreeding season. The prairie falcon is a rare to uncommon winter visitor and a rare breeding resident in San Diego County (Unitt 1984). PSBS (1989) reported the species as "occasional" at Rancho San Miguel. Presumably these birds were winter visitors, as the prairie falcon is not known to nest within 20 miles of the site.

**Athene cunicularia*, burrowing owl

*State: Species of Special Concern

PSBS (1989) reported seeing several burrowing owls on the project site and the habitat in the lower elevations of the site is suitable for them. ERCE biologists, however, did not find either the owls or ground squirrel colonies that would offer them burrows. The burrowing owls noted by PSBS may have been migrants or winter visitors. They could also have been residents that were extirpated if recent agricultural activity eliminated the ground squirrel burrows. The nearest known recently active colony is at Lower Otay Lake (Unit 1984).

**Polioptila caerulea amoenissima*, blue-gray gnatcatcher

The blue-gray gnatcatcher breeds sparsely in montane chaparral and desert riparian areas in San Diego County, where it is declining (Everett 1979). The species formerly nested in coastal riparian woodland, but has been eliminated from that habitat presumably by cowbird parasitism. It still occurs regularly as an uncommon winter visitor in lowland riparian scrub. PSBS (1989) did not report the blue-gray gnatcatcher, but ERCE biologists saw several in the northwestern portion of Rancho San Miguel on 23 March 1990. Evidently these were all migrants because the species was not encountered on later visits. The locality nearest Rancho San Miguel where the blue-gray gnatcatcher is known to have nested recently is along the Sweetwater River about 10 miles to the northeast where P. Unitt, H. A. Wier, and M. U. Evans noted a family group in August 1986.

**Cathartes aura*, turkey vulture

The turkey vulture has declined seriously in San Diego County (Everett 1979, Unitt 1984). PSBS (1989) biologists saw them soaring frequently over Rancho San Miguel during the winter. Turkey vultures still occur fairly commonly in migration, but have become rare as a breeding species in San Diego County, especially in the coastal region. The species formerly nested on San Miguel Mountain (Unitt 1984), but ERCE biologists did not see it at Rancho San Miguel in March and April 1990, the season when it would be nesting.

**Lanius ludovicianus*, loggerhead shrike

The loggerhead shrike is on the Audubon Society's Blue List (Tate 1986), but is a fairly common breeding species in San Diego County. Loggerhead shrike occupies a variety of habitats, occurring wherever bushes or trees are scattered on open ground, and is found in all but the mountain areas of San Diego County. Both PSBS (1989) and ERCE biologists noticed shrikes regularly in small numbers at Rancho San Miguel. The species is known to

nest nearby along the Sweetwater River, and some undoubtedly nest on Rancho San Miguel as well.

**Ammodramus savannarum*, grasshopper sparrow

The grasshopper sparrow is a declining species that has no special regulatory status but has been eliminated from much of its range in San Diego County. It is considered sensitive on the local level (Everett 1979). It occurs in grassland with sparse brush, primarily in the coastal lowland. Grasshopper sparrows are seen mainly from late March through mid-July, when they sing from exposed perches; the species is nearly impossible to find when not singing, and most or all of the population migrates out of California for the winter. PSBS (1989) plotted sightings of 13 grasshopper sparrows on Rancho San Miguel and in adjacent grasslands of the Sweetwater Reservoir property located within 10 meters of the site (Plate 3). ERCE located six birds, three of which were in areas where PSBS had not reported them.

**Aimophila ruficeps*, rufous-crowned sparrow

The rufous-crowned sparrow is a resident species that prefers grassy or rocky slopes with sparse bushes. It is considered sensitive by local biologists and is on the County of San Diego's list of sensitive biological resources (REPO draft, 1990). Most of the species' population occurs in coastal sage scrub, so it has undoubtedly been reduced greatly by urban development. Much of Rancho San Miguel is covered with open scrub ideal for this species, and both PSBS (1989) and ERCE found rufous crown sparrows common there. All undisturbed sections of open sage scrub habitat were occupied by this species. The population is estimated at several dozen pairs.

Amphispiza belli, sage sparrow

Federal: potential Candidate (Category 2)

The coastal subspecies of the sage sparrow is currently being considered as a Category 2 candidate species by the USFWS. A determination of its status will be completed this fall or winter. This subspecies is found on coastal slopes and interior foothills. It occurs in young chamise chaparral, dry coastal sage scrub with cactus, and in the ecotone between chamise chaparral and coastal sage scrub.

**Amphispiza belli belli*, sage sparrow

The coastal subspecies of the sage sparrow is on the Audubon Society's Blue List (Tate 1986). It is scattered and localized in San Diego County, occurring in broken sage scrub and chaparral on mesa tops and on gentle to moderate slopes. Because of the species' need for this type of easily developed topography, it may become threatened as the urbanization of southern California continues. The sage sparrow occurs in low density through much of Rancho San Miguel, with a population of perhaps 15 to 20 pairs.

**Geococcyx californianus*, roadrunner

The roadrunner is on the Audubon Society's Blue List (Tate 1986). The roadrunner, though still widespread in the inland and desert regions of southern California, has disappeared from much of its coastal range. Being a large bird, it occupies a large territory, and is quickly eliminated by urbanization and fragmentation of its habitat (Soulé et al. 1988). The roadrunner is considered a common species at Rancho San Miguel, because ERCE biologists noted one or two individuals on each visit.

Potentially Occurring Birds

**Haliaeetus leucocephalus*, bald eagle

*Federal: Endangered, State: Endangered

The bald eagle no longer breeds in San Diego County. A few reservoirs serve as wintering areas for the species and are important habitat areas. Bald eagles use reservoirs for fishing and trees near the shoreline for roosting sites in the winter. The bald eagle occurs very rarely at Sweetwater Reservoir as a winter visitor. It is not known to winter there. Because of the lack of aquatic habitat, bald eagle would not be expected to fish or roost on Rancho San Miguel.

**Buteo swainsoni*, Swainson's hawk

*State: Endangered

The Swainson's hawk is very reduced due to conversion of foraging habitat and nesting trees to row crop agriculture. The species requires large expanses of open grasslands and scrub for foraging with large trees nearby for perching and nesting (CDFG 1989). Breeding Swainson's hawks have been extirpated from San Diego County and currently are only very rare spring and fall migrants (Unitt 1984). No Swainson's hawks were observed and they are not likely to occur on the site except as a rare migrant.

**Buteo regalis*, Ferruginous hawk

*Federal: Candidate (Category 2)

Ferruginous hawks winter in San Diego County arriving in October and depart in March. They occur in open habitat, grasslands and agricultural areas where they forage for rabbits and ground squirrels. In western San Diego County they occur in valleys and coastal areas, and are regularly observed at Otay Ranch (Unitt 1984). No ferruginous hawks were observed on the site, but they may occasionally winter in the area and utilize the grassland habitats of the site for foraging. The absence of ground squirrels during ERCE surveys may be a limiting factor.

Several sensitive species restricted to riparian woodland occur along the Sweetwater River just north of Rancho San Miguel but would not be expected on the site itself because of the lack of proper habitat. These species, the willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), yellow warbler (*Dendroica petechia morcomi*), and yellow-breasted chat (*Icteria virens auricollis*) (Unitt 1984, 1987, WESTEC 1987), would not be affected directly by development of Rancho San Miguel but could be affected indirectly by increased human disturbance, noise, and increased pet predators.

Observed Mammals

No sensitive mammalian species were observed during the surveys. The following section describes the likelihood of those species potentially occurring on the project site.

Potentially Occurring Mammals

**Macrotus californicus*, California leaf-nosed bat

*Federal: Candidate (Category 2), State: Species of Special Concern

Macrotus californicus requires caves, and mine tunnels with very precise temperature and humidity requirements. It is known to roost at night in buildings as well as mines and caves. Most *M. californicus* migrate south for the winter but some areas near the Colorado River have winter hibernacula (Brown pers. comm. 1990). No recent information about the distribution of this species in coastal San Diego County has been collected. No day or night roosting resources exist on the site and this species has a low potential for occurrence on-site.

**Eumops perotis californicus*, California mastiff bat

*Federal: Candidate (Category 2), State: Species of Special Concern

This bat is a year-round resident in the coastal lowlands of California. They are found in rugged, rocky areas and roost during the day in rock crevices formed from exfoliating rock (Williams 1986). This species needs crevices with relatively exact dimensions and clear, downward facing openings for flight from the roost. Mastiff bats become torpid in the winter and would not have been observed during that season of the surveys. Habitat exists on the site for this species, however no surveys were conducted for their occurrence. Status of this species on the project site is unknown.

**Plecotus townsendii pallescens*, pale big-eared bat

*State: Species of Special Concern

Pale big-eared bats occur throughout San Diego County in conifer and oak woodlands, grasslands, and deserts. They roost in caves, mine tunnels, buildings and other man-made structures within those habitats. Their roosting sites are very susceptible to human disturbance. For example, one human visit to a maternity roost can cause the bats to abandon the site and their young (Williams 1986; Brown pers. comm. 1990). Although habitat appears suitable for this species in chaparral vegetation, appropriate roost sites do not exist on the project site. However, no nocturnal surveys were conducted for this species and their status on the site is unknown.

**Bassariscus astutus*, ringtail

*State: Fully Protected

This species inhabits chaparral and oak woodlands in areas with rocky outcrops and cliffs and it occurs near water sources. This nocturnal species dens in caves, rock outcrops, hollow trees, and abandoned buildings. Ringtails occupy territories approximately 20 acres in size and they appear to occur in areas with sufficient prey base (Williams 1986). Ringtail was not detected on the site, however they are nocturnal and very secretive and their sign is not readily distinguishable from other similar species so it could have remained unobserved. If it occurred on the site it would inhabit the chaparral habitat, drainages, and rocky outcrops. The status of this species on the site is unknown.

**Taxidea taxus*, American badger

*State: Species of Special Concern

American badger is considered a third priority mammalian species of special concern in California (Williams 1986). Badgers occur in grasslands and open shrub habitats in San

Diego County. Badger populations have declined drastically in California during the last century, primarily due to agricultural and urban expansion, loss of prey and secondary poisoning from rodent poisoning, and trapping for the fur trade. No American badgers were detected during the project survey, but the likelihood of this species occurring in the project area is considered high because the habitat is appropriate.

IMPACTS AND ANALYSIS OF SIGNIFICANCE

The Rancho San Miguel site supports one of the richest and most diverse assemblages of unique and sensitive biological resources in southern California. Thirteen sensitive plant species and 20 sensitive animal species are known to occur on the project site. Additionally, the site is potentially the single largest concentration of California gnatcatchers in southern California, and may support the largest known population of Otay tarweed in San Diego County. Regionally significant populations of coast barrel cactus and San Diego cactus wren are also present on-site. Individually, many of the 33 sensitive species found on the site would be considered significant resources. The high diversity and large population sizes of these resources compound the significance of the site for biological resources.

The location of the site is also important in that it lies within a larger block of contiguous open space to the north, east and south, and is adjacent to one of the largest populations of the federally endangered least Bell's vireo, which occurs along the upper reaches of the Sweetwater Reservoir. The northern parcel of the project is contiguous with an existing gnatcatcher population occurring throughout the Sweetwater River Valley to just above Singing Hills Golf Course that likely exceeds 150 pair. This could represent as much as 10 percent of the U.S. population of gnatcatchers. The northern portion of the site serves as a major movement corridor between the Otay Mesa area to the south and the Sweetwater Reservoir.

This combination of a high diversity of rare plant and animal species with high population densities, and its proximity within a much larger regional open space preserve cumulatively make this site one of the most significant parcels of undeveloped land remaining in San Diego County for biological resources.

Development of the Rancho San Miguel property as presently proposed, including roadways, will have a significant adverse impact on many biological resources. It is

assumed that all native vegetation and sensitive resources within the identified lot limits will be impacted. For purposes of this impact analysis, it is assumed that impacts resulting from fuel management practices will be restricted to within the lot lines.

Biological resources on a site can be grouped into two areas: specific, identifiable resources such as individual species and distinct features; and less tangible attributes such as wildlife habitat, biodiversity, or portions of a larger open space system. The following is an itemization of impacts from the proposed project on sensitive biological resources found on the project site.

Vegetation

Table 4 shows the project-related reduction of habitats by acreage. These data assume that all potential open space areas on-site shall remain intact as natural, biological open space except for parks. Proposed project development is concentrated in the western portions of the site with the majority of open space proposed in the central and eastern portions of the site including the western slopes of San Miguel Mountain. Figure 3 depicts project impacts to sensitive habitats.

Impacts to vegetation were divided into two categories: direct impacts and indirect impacts. Direct impacts were areas to be developed or where grading will occur. This would include backyard areas where no grading may be proposed, but degradation of the habitat would result from use of the site by the future homeowner. Indirect impacts to biological resources will occur in areas adjacent to development. Islands of habitat will probably decline in viability to plant and animal species as discussed below due to an increase in man-caused disturbances. Fragmented communities have a diminished capacity to recover from disturbances.

Wetlands. This category includes dry marsh/riparian scrub and riparian scrub dominated by mulefat. Direct elimination by filling of wetlands and potential degradation or elimination by placement of wetlands within residential lot boundaries could result in wetland impacts of up to 3.1 acres. Although these habitats are not of high quality on-site, the degradation or filling of up to 3.1 acres of wetland habitat is considered a significant effect given the rarity of this resource, its importance value to wildlife, its recognition by the County and the resource agencies as a sensitive habitat, and because portions of the

Table 4
IMPACTS TO HABITATS ON THE
RANCHO SAN MIGUEL SITE IN ACRES

	Existing Habitat	Habitat Remaining After Development*	Direct Impacts*	Indirect Impacts*+
Diegan Coastal Sage Scrub	1,922.0	1,447.0 (75)	467.0 (24)	48.0 (1)
Disturbed Native Grassland	16.0	16.0 (100)	0.0	0.0
Chamise Chaparral	23.0	23.0 (100)	0.0	0.0
Southern Mixed Chaparral	132.0	132.0 (100)	0.0	0.0
Non-Native Grassland	532.0	107.0 (20)	4.0 (78)	10.0 (2)
Wetland ¹	<u>13.1</u>	<u>7.6 (58)</u>	<u>3.1 (24)</u>	<u>2.4 (18)</u>
Totals	2,638.1	1,732.6	885.1	60.4

* Numbers in parentheses are percentages of habitat out of total habitat.

+ Habitat "islands" surrounded or nearly surrounded by proposed development.

¹ Wetland habitat onsite includes Dry Marsh/Riparian Scrub habitat and Riparian Scrub habitat dominated by mulefat.

washes on-site support two sensitive species of plants, *Iva hayesiana* and *Juncus acutus*. Over 80% of the impacts occur within backyard areas of proposed lots.

Filling of wetlands will require a CDFG 1603 Agreement. Impacts of up to 3.1 acres of wetlands may require a Pre-discharge Notification submitted to the ACOE and a 404 permit may be required.

Diegan Coastal Sage Scrub. Although only 24 percent of the coastal sage scrub on-site is eliminated under the proposed development plan, the loss of 467 acres of this habitat is nevertheless significant because of the sensitive species located in these impact areas. Important populations of *Ferocactus viridescens*, *Salvia munzii*, California gnatcatcher, and cactus wren are concentrated in the coastal sage scrub proposed for development. Diegan coastal sage scrub is considered a sensitive community by the state and county (CNDDDB 1990; Oberbauer 1990).

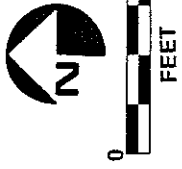
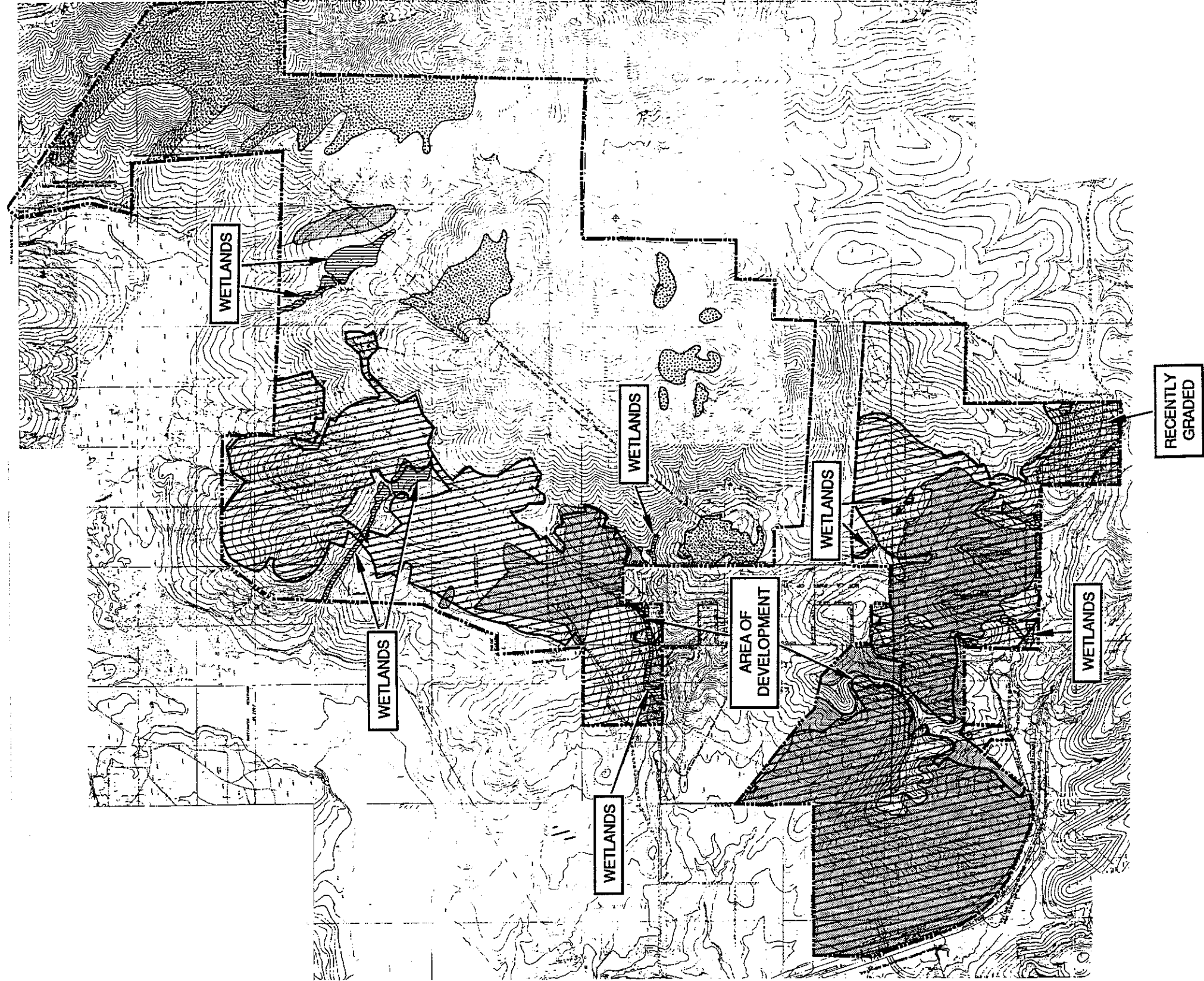
Disturbed Coastal Prairie. No reductions to disturbed coastal prairie will occur.

Southern Mixed Chaparral. No reductions to southern mixed chaparral will occur.

Chamise Chaparral. No reductions to chamise chaparral will occur due to development of the concept plan.

Non-native Grassland. The extensive loss of non-native grassland habitat is considered cumulatively adverse but nonsignificant except where it contains large populations of these rare native plants, Palmer's grappling hook and Otay tarweed. Impacts to these species are considered significant. Surrounding grasslands are rapidly being developed or are proposed for development which leaves remaining foraging habitat in as grasslands an important cumulative loss for raptors.

Indirect impacts to biological open space could result from a number of factors. Increased human activity as a result of development of the site will likely increase the number of domestic cats and dogs using the wildlife corridors and adjacent biological open space. Domestic cats can have significant impacts on bird populations for species that nest low to the ground, such as the California gnatcatcher. The maintenance of two or more continuous corridors will maximize the potential for continued use of the site by larger mammalian predators, and should help to reduce this potential impact. Degradation of the coastal sage scrub vegetation can result from increased human activity. Invasive non-native



LEGEND	
	WETLANDS
	CHAPARRAL
	DIEGAN COASTAL SAGE SCRUB
	NON-NATIVE GRASSLAND
	RECENTLY GRADED
	AREA OF DEVELOPMENT

plants can also increase in open space directly adjacent to homes. These potential indirect impacts are considered cumulatively significant.

Plant Species

Table 5 summarizes the effects of the project to sensitive plants. Fourteen sensitive species were observed with impacts to seven of these species were considered significant: Otay tarweed, California adolphia, coast barrel cactus, Palmer's grappling hook, San Diego marsh elder, spiny rush, and Munz's sage. Impacts to the remaining species are not considered significant. Impacts to Otay tarweed are shown in Figure 4. Impacts to the other sensitive plants listed are shown in Figure 5.

Approximately 70 to 80 percent of the 200,000 individuals of Otay tarweed detected during the 1991 surveys would be impacted by the project as proposed. Most of these impacts would occur in the western and central portions of the southern parcel of the site, as shown in Figure 4. In particular, a majority of the population of approximately 20,000 individuals detected in Horseshoe Bend and the population of approximately 50,000 individuals detected adjacent to the SDG&E substation on Proctor Valley Road would be lost to the project. These impacts are considered significant.

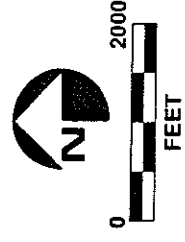
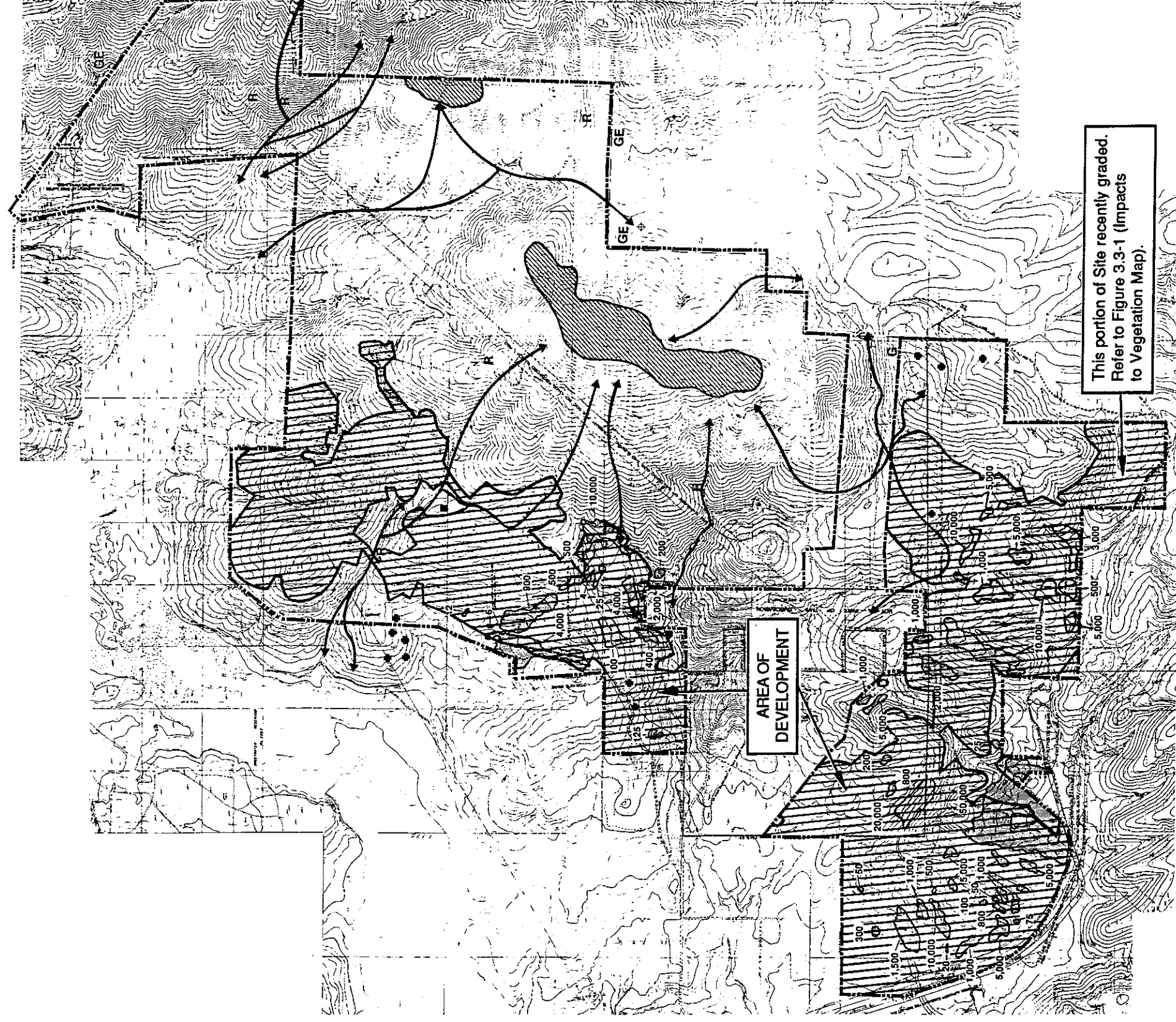
Approximately 6,300 of the estimated 8,000 coast barrel cactus individuals on-site would be impacted. The site represents one of the more impressive barrel cactus populations in the county. Two of the denser populations in the northern and southern portions of the site, consisting of approximately 1,250 and 1,400 individuals respectively, would be eliminated. Due to the overall loss of approximately 80 percent of this large population of this CNPS List 2 species on-site, the project impact is considered significant.

At least 11,000 individuals of Palmer's grappling hook occur on the property. The largest population on-site, consisting of approximately 10,000 individuals, is in the southern-central portion of the site. This species is widely distributed within three counties in southern California. However due to the large size of the population on-site, the loss of all known individuals of this CNPS List 2 species from the project is considered significant.

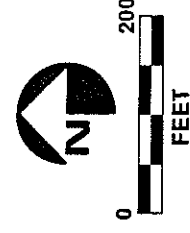
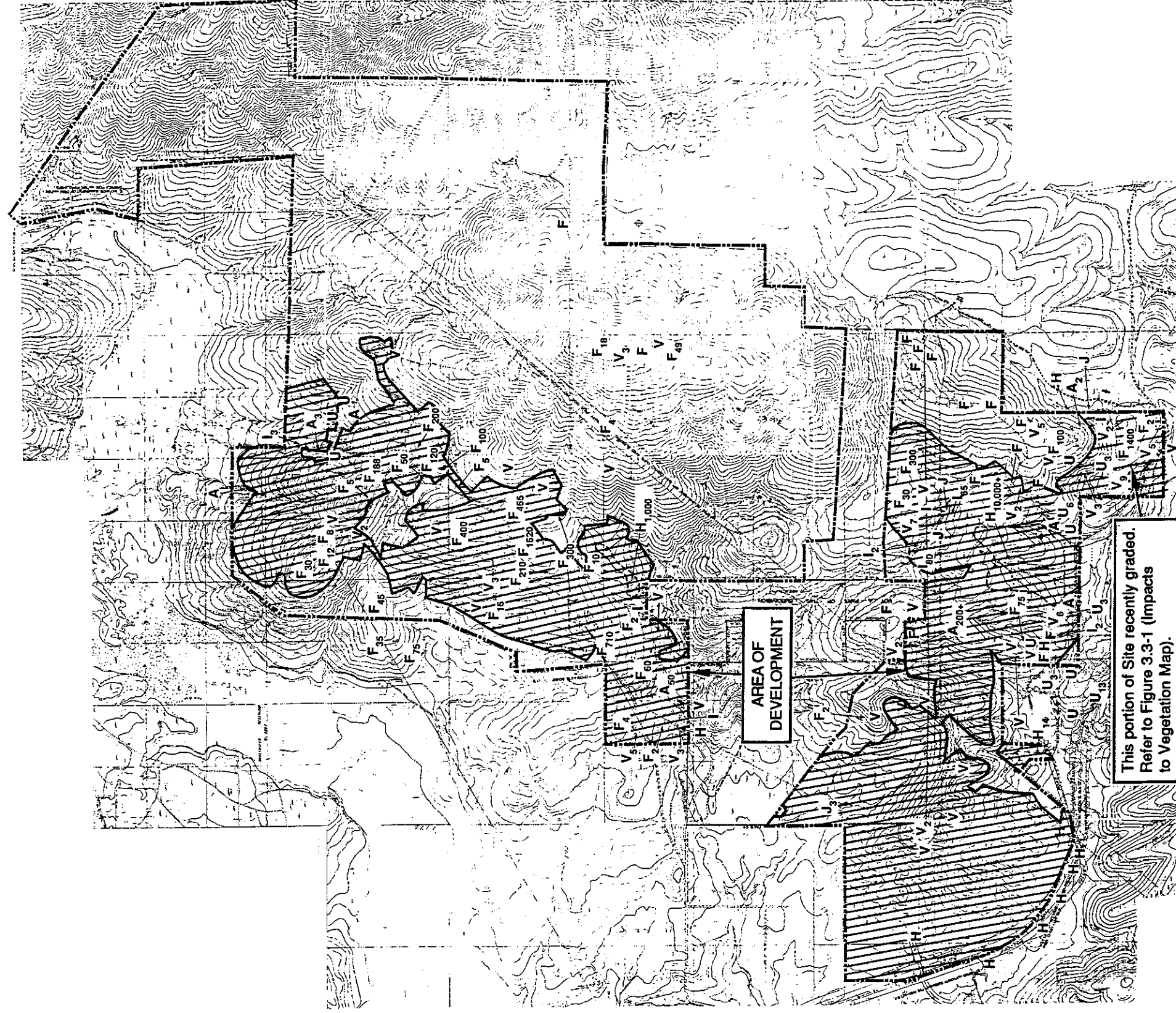
At least 350 California adolphia plants occur on the property. The two most abundant populations on-site are in the southern portion of the site. One population is south of the Miguel Substation (approximately 200 individuals), and the other is on a slope south of the

Table 5
IMPACTS TO SENSITIVE PLANTS ONSITE

Species	Effect	Comment
Otay tarweed	Significant	70 to 80 percent impacted (i.e., approximately 200,000 individuals). Dense populations impacted in western and central parts of the southern portion.
Coast barrel cactus	Significant	80 percent onsite (i.e., approximately 6,300 individuals) impacted. Dense populations impacted in the northern and southern portions of the site.
Palmer's grappling hook	Significant	All known individuals in the northern and southern portions of the site (i.e., approximately 11,000) impacted.
California adolphia	Significant	85 percent impacted onsite. Species not impacted in northern and northeastern portions of the site. Species also present adjacent to the site.
San Diego marsh elder	Significant	90 percent (i.e., approximately 300 individuals) impacted.
Munz's sage	Significant	Over 50 percent impacted. Only individuals in the southeastern portion of the site lie outside development area.
Mesa clubmoss	Nonsignificant	Common onsite. Estimated 20 percent loss associated with loss of coastal sage scrub and mixed chaparral habitats onsite.
San Diego sunflower	Nonsignificant	Approximately 40 percent impacted. Large number of plants would not be impacted in the eastern portions of the site.
Spiny rush	Significant	50 percent (i.e., approximately 200 individuals) impacted.



- LEGEND**
- ↔ LARGE MAMMAL MOVEMENT CORRIDORS
 - Hemizonia confertiflora* (Approximate Population)
 - LARGE MAMMAL HIGH USE AREA
 - CACTUS WREN TERRITORY
 - SAN DIEGO HORNED LIZARD
 - R RAPTOR NEST SITES
 - GE HISTORIC GOLDEN EAGLE NEST SITES
 - G GOLDEN EAGLE PERCH
 - AREA OF DEVELOPMENT



LEGEND

F₁₀₀ = LOCALIZED BOUNDARY OF *Ferocactus viridescens* DISTRIBUTION WITH APPROXIMATE NUMBERS

F = SMALL NUMBER OF ISOLATED *Ferocactus viridescens* INDIVIDUALS

H = *Harpagonella palmeri* POPULATION (< 100 Individuals)

(H) = *Harpagonella palmeri* POPULATION (10,000+ Individuals)

A = *Adolphia californica*

U = *Salvia munzii*

V = *Viguiera laciniata*

J = *Juncus acutus*

I = *Iva hayesina*

|||| = AREA OF DEVELOPMENT

existing ranch (over 100 individuals). Both of these populations would be impacted. Due to the overall loss of approximately 85 percent of the population of this CNPS List 2 species on-site, this project impact is considered significant.

Approximately 340 San Diego marsh elder individuals occur on the property. Populations on-site are concentrated along intermittent drainages and are often associated with wetland vegetation associations. This species is more common and widespread south of the border, and the south county region, although it is considered to be relatively rare within the county. Because of its location within a wetland and the loss of approximately 90 percent of the on-site population of this CNPS List 2 species the project impact is considered significant.

Approximately 425 Munz's sage individuals occur on the property. Two populations occur on-site in the northern and southern portions near the property boundary. Because Munz's sage individuals on-site lie near the northern distributional limits of this species, and the project would impact over 50 percent of this CNPS List 2 species on-site, the impacts are considered significant.

Two species, *Seleginella cinerascens* and *Viguiera laciniata*, are not considered to be significantly impacted. *S. cinerascens* is common on the project site and approximately 80% will be outside the development area. Approximately 60% of the *V. laciniata* individuals will not be impacted by project implementation.

Approximately 400 individuals of spiny rush were detected on the project site along intermittent drainages associated with wetland habitats. This species is relatively widely distributed in southern California but is restricted to wetland habitats. Because of its location within wetland, impacts to this species are considered significant.

The remaining five sensitive plant species found on the project site lie outside proposed development areas. These species are : *Artemisia palmeri*, *Dichondra occidentalis*, *Dudleya variegata*, *Muilla clevelandii* and *Stipa diegoensis*.

Wildlife Species

Table 6 summarizes the effects to sensitive wildlife on-site. Twenty-one sensitive species were observed on the site and two of these species are considered to be significantly

Table 6
IMPACTS TO SENSITIVE WILDLIFE SPECIES

Species	Effect	Comment
<u>Birds</u>		
American Peregrine Falcon	Nonsignificant	No breeding or foraging habitat onsite.
California Gnatcatcher	Significant	58 percent (40 pair) impacted and 12 percent (8 pair) partially impacted; 411 acres of occupied habitat impacted and 77 acres of potentially occupied habitat impacted.
Cactus Wren	Significant	42 percent (5 territories) impacted.
Black-shouldered Kite	Nonsignificant	67 percent foraging habitat lost, no nesting or breeding habitat.
Cooper's Hawk	Nonsignificant	No nesting or breeding habitat, little foraging habitat, occasional visitor.
Sharp-shinned Hawk	Nonsignificant	Infrequent winter visitor.
Golden Eagle	Nonsignificant	Retention of 70 percent of biological open space and high elevation areas; no impacts to nests.
Northern Harrier	Nonsignificant	Cumulatively adverse; one breeding pair impacted; grassland and sage scrub foraging habitat impacted.
Prairie Falcon	Nonsignificant	No breeding habitat; cumulative loss of foraging habitat.
Burrowing Owl	Nonsignificant	Birds currently not occupying site; could be significant if birds return.
Blue-gray Gnatcatcher	Nonsignificant	Migratory species.
Turkey Vulture	Nonsignificant	Not currently breeding onsite, cumulative loss of foraging habitat.
Loggerhead Shrike	Nonsignificant	Significant foraging habitat exists in the eastern part of the site.

Table 6 (Continued)
IMPACTS TO SENSITIVE WILDLIFE SPECIES

Species	Effect	Comment
<u>Birds</u> (Continued)		
Grasshopper Sparrow	Nonsignificant	Cumulative adverse loss; few individuals occur onsite.
Rufous-crowned Sparrow	Nonsignificant	Significant number of animals protected in the eastern part of the site.
Sage Sparrow	Nonsignificant	Loss of habitat not considered significant; cumulative decline of this species' population in region.
Greater Roadrunner	Nonsignificant	Loss of habitat not considered significant; cumulative decline of this species' population in region.
<u>Reptiles</u>		
San Diego Horned Lizard	Nonsignificant	Significant amount of habitat protected in the eastern part of the site.
Orange-throated Whiptail	Nonsignificant	Significant amount of habitat protected in the eastern part of the site.
Two-striped Garter Snake	Nonsignificant	No direct impacts; possible reduction by pet predation and collecting.

impacted by implementation of the proposed project: California gnatcatcher and cactus wren. Nine sensitive wildlife species could occur on the site, including Hermes copper butterfly, Quino checkerspot butterfly, Swainson's hawk, ferruginous hawk, ringtail, American badger, California leaf-nosed bat, pale big-eared bat, and California mastiff bat. A discussion of sensitive species occurring and impacts that would occur to these sensitive species follows. Impacts to selected resources are illustrated in Figure 4.

Other significant impacts to wildlife may result from the project. Fragmentation of wildlife habitat and increased impacts from pets, lighting, noise, and wild fires will reduce the quality of the existing habitat for many large mammalian predators, birds of prey, and their prey species. Movement corridors for wildlife identified in the northern sections of the property will be impacted by the placement of roads or by the removal of vegetation that may affect wildlife movement. Once the predator-prey interactions are disrupted the resulting quality of wildlife habitat and existence is reduced. The crossing of Coon Canyon by two roads has the potential for reducing wildlife movement through the area and will severely restrict movement on what is considered the most important corridor on the project site.

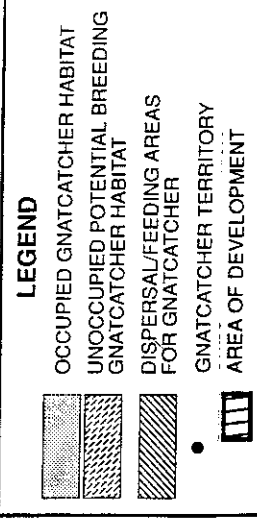
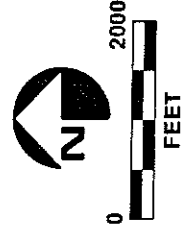
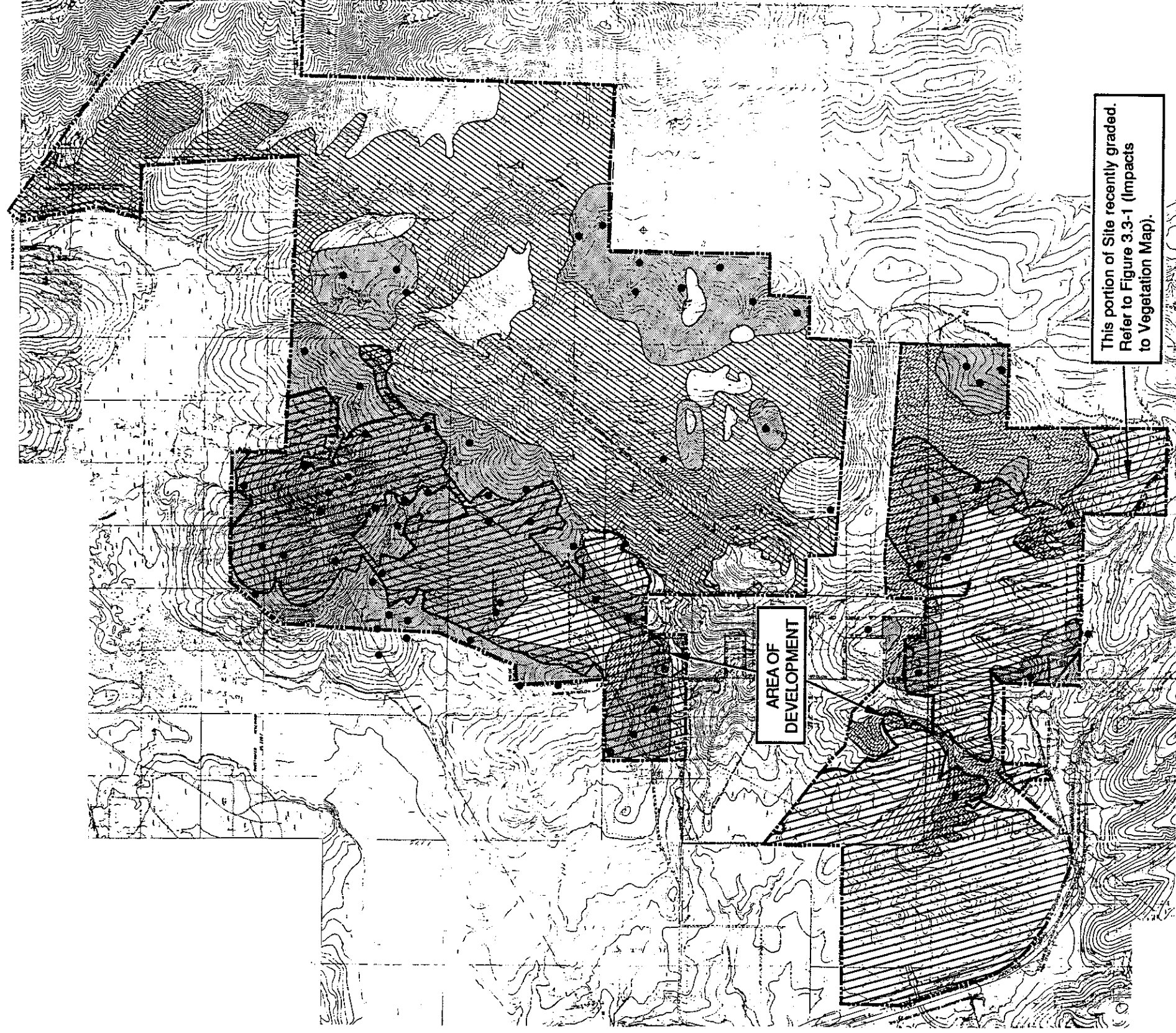
Reptiles

Sensitive reptiles, including San Diego horned lizard and orange-throated whiptail will be incrementally affected by the implementation of the proposed plan. The San Diego horned lizard and orange-throated whiptail are expected throughout coastal sage scrub on-site. The retention of the large majority of Diegan coastal sage scrub should enable these species to continue to exist within the area. The impacts to these species are considered incrementally adverse but nonsignificant.

No direct impacts will occur to the observed two-striped garter snake, however impacts will occur to wetland habitats where this species may be found. Impacts to this species are not considered significant.

Birds

The wildlife species of highest sensitivity in the upland habitat is the California gnatcatcher. The proposed project will significantly impact this species (Figure 6). The plan would cause direct impacts to 40 (58%) of the existing 67 pairs and would partially impact 8



additional pairs (12%). Partial impacts are considered for pairs which were observed adjacent to proposed development and the majority of these territories were assumed to be lost. Reductions to the population could occur from indirect impacts through increased disturbance and fragmentation of the habitat. Only 21 pairs (30%) of California gnatcatchers are in the proposed open space not isolated by homes.

Approximately 411 acres (44%) of occupied gnatcatcher habitat will be directly impacted and 43 acres (5%) will be indirectly impacted with 383 acres (46%) retained in biological open space. Approximately 97 acres (54%) of potential breeding habitat that was not occupied during the ERCE spring surveys will be directly impacted and 6 acres (3%) will be indirectly impacted. A total of 76 acres (46%) of potential breeding habitat will remain in biological open space.

The California gnatcatcher population on Rancho San Miguel is part of a larger core population for the entire species. Census data accumulated from previous off-site surveys and the Rancho San Miguel survey indicate well over 100 pairs of gnatcatchers in the sage scrub habitat along the Sweetwater River (SEB 1984, WESTEC 1988, MBA 1989, ERCE 1991).

If the gnatcatcher is listed as endangered, it is likely that all suitable sage scrub habitat for the species would be affected. Section 9 of the Endangered Species Act does not allow for the "take" of an endangered species. Take is defined as any action that would jeopardize the existence of an individual or any portion of the environment necessary for its survival. Direct and indirect impacts which are considered "take" are: elimination of individuals and their habitat; impacting habitat due to excessive noise or night lighting; and long-term degradation of habitat by fire as a result of an activity. If the gnatcatcher becomes listed, construction activities on the site could be stopped until either all "takes" resulting from a project are eliminated, or a Habitat Conservation Plan (HCP) for the species is developed as directed under Section 10(a) of the act. Development of an HCP may allow limited impacts to the Diegan coastal sage scrub for development.

If the coastal cactus wren is considered a separate subspecies, then the cactus wren is the most seriously threatened species on the site. Only 200 pairs are known to remain in coastal San Diego County (Rea and Weaver 1991). Of the 13 pairs on and near the project site, seven pairs (54%) would be eliminated under the current development plan. These impacts are considered significant.

Five other sensitive upland bird species were detected on-site: loggerhead shrike, sage sparrow, blue-gray gnatcatcher, rufous-crowned sparrow, and grasshopper sparrow. PSBS reported thirteen grasshopper sparrows on-site and ERCE located six birds. Several dozen pairs of rufous-crowned sparrows were reported by ERCE. The sage sparrow was reported as uncommon on-site by both ERCE and PSBS. The migratory blue-gray gnatcatcher was detected by ERCE biologists in March, 1990, and the loggerhead shrike was noted by ERCE and PSBS regularly in small numbers. The displacement of these species by development is considered an incrementally adverse impact but is not considered significant.

The project site currently supports great horned owl, golden eagle, red-tailed hawk, red-shouldered hawk, American kestrel, and black-shouldered kites. Cooper's hawks are common in the vicinity, but apparently have not nested on the project site. Northern harrier has been recently observed on-site. The habitat is attractive to a wide variety of raptors which indicates its high quality for these birds. Although the openness of the adjacent land is also a factor in the number of nests, and the nesting success of raptors on-site would decrease, due to a reduction of foraging area, combined with an increase in human activity, species such as red-tailed hawk, red-shouldered hawk, American kestrel, and barn owl are known to adapt more readily to urban environments.

One raptor nest will be lost by implementation of the project. Foraging habitat will be reduced for a number of raptor species occurring on the site or having the potential to occur in the project area. These impacts are not considered significant.

Mammals

Large carnivorous mammals such as mountain lion, bobcat, and fox could be reduced due to increases in human activity and loss of habitat. The bobcat would probably be most affected because this species currently uses the property, specifically Coon Canyon. Incremental reductions of habitat for this species are not considered significant, however, given the status in San Diego County. The ringtail, if a resident, would be affected mostly by an increase in human activity, as sufficient habitat would continue to exist on-site to support ringtails. Some individuals may be impacted during development.

Deer corridors on the northern portion of the site will be significantly impacted from the development of the project. The major wildlife corridor through Coon Canyon will be

greatly reduced by two roads cutting across the canyon and by housing units adjacent to the corridor. The total length of this corridor is approximately 2400 feet with the width varying between approximately 300 and 900 feet. Bridges have been proposed to reduce the potential for constricting movement through this area. Viability of the Coon Canyon corridor will be reduced because the proximity of housing will preclude some species' movement through the corridor. Other landscape corridors along ridges and drainages will be altered by the incursion of development and roads in the northern and southern portions. Unless the off-site northern areas become developed, movement can occur around the northern portion of the site and through the San Diego Gas and Electric easement after implementation of the project.

MITIGATION AND MEASURES TO REDUCE IMPACTS

The project as currently proposed would result in significant unmitigable impacts to the California gnatcatcher, coastal cactus wren, Otay tarweed, coast barrel cactus and Palmer's grappling hook. A discussion of mitigation measures for specific impacts follows.

- Extensive development of the west half of the northern section of Rancho San Miguel is considered an unmitigable significant adverse impact to biological resources. The area is a core habitat for the California gnatcatcher, supports several pairs of cactus wren, and features an unusual concentration of the coast barrel cactus. The mitigation measures and changes in project design outlined below are created to reduce anticipated impacts to the remaining sensitive habitats and sensitive species to below a level of significance.
- The potential open space areas discussed above should be retained as biological open space in easements on the project site. Management of the biological resources on the site and monitoring programs to retain the viability of the open space to wildlife shall be incorporated in a Open Space Management Plan (OSMP) with the approval of the City of Chula Vista, USFWS, and CDFG. The plan will be approved with the City SPA. This plan will be reviewed and revised as needed to retain biological resources. The OSMP for the project should be incorporated and approved by the City of Chula Vista and resources agencies to ensure monitoring begins with ample time to collect data before the site is graded.

- The mitigation measures for individual species outlined in Table 7 will be required to compensate for impacts to these species under CEQA.
- The potential loss or degradation of 3.1 acres of wetland habitat is considered significant by CDFG. Any filling of wetlands would require a 1603 Agreement between the project proponent and CDFG. A Pre-Discharge Notification would have to be submitted to the Army Corp of Engineers (ACOE) and a 404 permit may be required.
- A no net loss of wetland habitat is required by CDFG. Impacts to wetlands must be avoided to the greatest extent practicable to reduce impacts. Impacts within the project can be reduced by placement of wetlands occurring within proposed residential lots in open space easements and providing adequate buffers. Where impacts cannot be avoided every effort should be made to minimize those impacts. All unavoidable impacts should be mitigated by on-site creation of wetland habitat. Drainages that receive run-off from housing may be considered for the location of created wetlands. Minimizing impacts could be accomplished with a comprehensive program to replace and enhance wetland habitat under a Wetland Revegetation Plan created by a wetland revegetation specialist with approval of CDFG, ACOE if necessary, and the City of Chula Vista. Impacted wetlands should be replaced at a minimum ratio of one-to-one.
- Graded areas along roadways should be hydroseeded with native plant species consistent with adjacent natural vegetation. This would minimize erosion and runoff, as well as improve the area aesthetically by making it visually compatible with adjacent natural areas.
- Iceplant (*Carpobrotus aequilaterus* or *C. edulis*) shall not be used in lieu of fire-resistant native vegetation. Importation of this plant introduces fire ants (an unpalatable species for San Diego horned lizard) and are known to reduce native harvester ant populations. As part of this effort a revegetation plan shall be developed by a revegetation specialist experienced with coastal sage scrub and similar habitats. The revegetation plan will be reviewed and approved by the City of Chula Vista, USFWS, and CDFG.

Table 7

**CEQA REQUIRED MITIGATION MEASURES
FOR INDIVIDUAL SPECIES**

- | | |
|----------------------------|---|
| 1. Otay Tarweed | Loss of such a large population of Otay tarweed cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, a minimum of 80 percent of this plant species should be retained in open space, including the areas supporting the largest number of Otay tarweed. The most significant populations occur in the area adjacent to the SDG&E substation on Proctor Valley Road and in the area of Horseshoe Bend. For impacts which go beyond the 20 percent recommended above, a revegetation/restoration program could be implemented which would examine the potential for re-introducing this species into disturbed areas within proposed open space for the project. Any restoration efforts would require working closely with the CDFG. A minimum of 65 percent of the Otay tarweed shall be retained in open space, even if a restoration program is implemented. Such a redesign would reduce impacts to this species to below a level of significance. |
| 2. Coast Barrel Cactus | Loss of such large populations of barrel cacti cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, the areas supporting the largest number of barrel cacti should be excluded from the development area. These areas are in the northeast and southeast corners of the proposed development area in the south section and in the west-central and northwest parts of the north section. Project redesign to avoid these areas would reduce impacts to below a level of significance. All impacted cacti should be salvaged and transplanted to proposed open space areas onsite. |
| 3. Variegated Dudleya | No impact, no mitigation needed. |
| 4. Cleveland's Golden Star | No known impact, therefore no mitigation needed. |

Table 7 (Continued)
CEQA REQUIRED MITIGATION MEASURES
FOR INDIVIDUAL SPECIES

5. Palmer's Grappling Hook	Significant impacts to this plant cannot be mitigated with the project as proposed. The project should be redesigned to retain at least 50 percent of the areas where most of the Palmer's grappling hook occurs, in the eastern half of the southern portion and in the west-central part of the northern portion, as biological open space. Use existing easements as possible enhancement areas. Redesigning the project as suggested would reduce impacts to this species to below a level of significance.
6. California Adolphia	Significant impacts to this plant cannot be mitigated with the project as proposed. The loss of significant populations of this plant can be reduced only by excluding the important patches of it from the development area. The project should be redesigned to protect at least 50 percent in biological open space. Such redesign would reduce impacts to below a level of significance.
7. Palmer Sagebrush	No impact, no mitigation needed.
8. San Diego Marsh Elder	Wetlands onsite should be avoided to the extent practicable. Unavoidable impacts could be mitigated through a revegetation program.
9. Munz's Sage	Significant impacts to this plant cannot be mitigated with the project as proposed. The project should be redesigned to retain at least 50 percent of this species' habitat in biological open space. These areas are in the south-central and southeast parts of the southern portion, and the north-central part of the northern portion. Such redesign would reduce impacts to below a level of significance.
10. Mesa Clubmoss	Impact not significant, no mitigation needed.
11. San Diego Needlegrass	No impact, no mitigation needed.
12. San Diego Sunflower	Impact not significant, no mitigation needed.
13. Western Dichondra	No impact, no mitigation needed.

Table 7 (Continued)
CEQA REQUIRED MITIGATION MEASURES
FOR INDIVIDUAL SPECIES

14. Spiny Rush	Wetlands onsite should be avoided to the extent practicable. Unavoidable impacts to spiny rush could be mitigated through enhancement of wetland areas to include revegetation of spiny rush.
15. Orange-throated Whiptail	Impact not significant, no mitigation needed.
16. Golden Eagle	Impact not significant, no mitigation needed.
17. Cactus Wren	Impacts to the cactus wren cannot be mitigated with the project as proposed. If a significant unmitigable adverse impact is to be avoided, the project must be redesigned to exclude at least 90 percent of all the occupied cactus thickets from the development area in contiguous biological open space. These lie in the eastern half of the south section and in the west-central and northwest portions of the north section.
18. San Diego Horned Lizard	Impact not significant, no mitigation needed. Impacts to the California gnatcatcher cannot be mitigated with the project as proposed.
19. California Gnatcatcher	Impacts to the California gnatcatcher cannot be mitigated with the project as proposed. Mitigation for losses of the California gnatcatcher can be accomplished only through dedication of important tracts of the species' habitat into natural open space. These tracts must be linked in a network to allow for the birds' dispersal, maintenance of populations sufficiently large to be self-sustaining, and population recovery after the fires which inevitably sweep through native scrub. Because Rancho San Miguel is a major part of a core gnatcatcher habitat, reductions to below a level of significance can be accomplished only through a project redesign that leaves a significant majority of the pairs and their habitat in natural open space. This would entail the exclusion of development from nearly all of the western half of the north section. Loss of a few gnatcatchers might be considered nonsignificant if the development in the north section were confined to the western extremity of already disturbed habitat.

- Grading activities within areas harboring breeding California gnatcatcher and cactus wren should not be conducted during the breeding season (mid-March through July).
- A construction monitoring program should be developed. Site preparation activities, especially staging area operations and maintenance rows for heavy machinery, shall be restricted to areas not being placed in biological open space. Carelessness on the part of equipment operators can result in the destruction of areas that have been designated for preservation. Areas adjacent to open space shall be fenced. A debris basin should be installed prior to excavation in areas where grading is up-slope of sensitive biological habitats. These recommendations should be incorporated into a Construction Monitoring Program approved by CDFG, USFWS, and the City.

Compliance with state regulations (California AB 3180) requiring monitoring programs for development projects will consist of the following two objectives:

1. The final site plan shall be reviewed by a qualified biologist for the City of Chula Vista, USFWS, and CDFG for compliance with mitigation plans or procedures.
2. Each phase of project implementation shall be reviewed by a qualified biologist for compliance with the mitigation measures required for that phase and a report filed prior to notice of completion.

ALTERNATIVES TO THE PROPOSED PROJECT

No Project Alternative

The biological resources identified on the site would remain in their present state. The No Project Alternative would preserve the site in its natural state with the exception of current land use practices that reduce biological habitat quality. The No Project Alternative would not preserve the biological open space in a resource management program.

Horseshoe Bend Alternative

Vegetation

The Horseshoe Bend Alternative reduces impacts to all vegetation types on the project site. Direct impacts will be reduced to a total of 429 acres of coastal sage scrub, 7 acres of wetlands, and 373 acres of non-native grasslands. Significant impacts will occur to Diegan coastal sage scrub and wetlands. A summary of direct and indirect impacts to vegetation from this alternative and a comparison with the project are listed in Table 8.

Plant Species

The Horseshoe Bend Alternative will impact 5300 individual barrel cactus, 235 San Diego marsh elder (including up to 80% of the remaining eight populations), and 50 California adolphia (Up to 80% of the remaining five populations will be impacted). This alternative also impacts nearly 95% of the Palmer's grappling hook habitat, approximately 95% of the Otay tarweed habitat, and approximately 75 to 90% of the Munz's sage habitat. Up to 80% of the San Diego sunflower individuals and 100% of the spiny rush will be lost to implementation of the development. Significant impacts will occur to coast barrel cactus, Otay tarweed, California adolphia, Munz's sage, spiny rush, San Diego marsh elder, and Palmer's grappling hook.

Wildlife Species

The Horseshoe Bend Alternative will impact 40 of the 67 pairs (68%) of California gnatcatchers on the site. Impacts to the gnatcatcher are nearly the same as for the proposed project. Direct impacts to gnatcatcher occupied habitat are reduced by five acres for a total of 335 acres with this alternative. Direct impacts to potential breeding habitat does not change and indirect impacts are reduced from 8 acres to 5 acres.

No other changes in impacts to wildlife species will occur with this alternative.

Table 8

IMPACTS TO VEGETATION COMMUNITIES ON THE RANCHO SAN MIGUEL SITE

Acres Impacted

	Proposed Plan			Horseshoe Bend Alternative			Coon Canyon Alternative			Biologically Sensitive Alternative		
	Direct	Indirect	Intact	Direct	Indirect	Intact	Direct	Indirect	Intact	Direct	Indirect	Intact
Wetland	11	2	1	7	2	5	8	0	6	0	0	14
Sage Scrub	467	48	1447	429	53	1440	306	20	1596	20	10	1891
Grassland	415	10	107	373	45	114	448	10	74	353	2	177

Coon Canyon Alternative

Vegetation

The Coon Canyon Alternative reduces impacts to the sensitive habitats, Diegan coastal sage scrub and wetland, and increases impacts to the non-sensitive habitat, non-native grassland. Impacts would total 306 acres Diegan coastal sage scrub vegetation would total 8 acres to wetlands, and 448 acres for non-native grassland. A summary of direct and indirect impacts for each habitat type is listed in Table 8.

Impacts to sage scrub and wetland habitats will remain significant. Wetland habitat is considered significant because of the no net loss policy by CDFG, USFWS and ACOE of this habitat type. Diegan coastal sage scrub remains a significant loss because the reduction does not reduce the level of impacts to sensitive resources including: California gnatcatcher, cactus wren, and coast barrel cactus to below a level of significance.

Plant Species

The Coon Canyon Alternative will impact 6200 individual barrel cactus, 235 San Diego marsh elder, and 250 California adolphia (with remaining three populations also lost) This alternative also impacts nearly 90% of the Palmer's grappling hook habitat. Approximately 100% of the Munz's sage habitat will be impacted in the southern portion, however approximately 80% of this species' habitat is protected in open space in the northern portion. This alternative would impact approximately 100% of the Otay tarweed habitat. Approximately 75 to 90% of the San Diego sunflower and 55 to 75% of the spiny rush individuals will be impacted. Significant impacts will occur to barrel cactus, Otay tarweed, California adolphia, Munz's sage, spiny rush, San Diego marsh elder, and Palmer's grappling hook.

Wildlife Species

A total of 22 pairs (32%) of California gnatcatchers will be impacted by implementation of this alternative. Significant impacts will occur to gnatcatcher pairs and their habitat. This alternative does not reduce impacts to the area with the highest number of gnatcatcher pairs and increases the amount of direct impacts to occupied gnatcatcher habitat to a total of 473

acres. Indirect impacts increase to 20 acres. Direct impacts to potential breeding habitat are 151 acres with an additional 6 acres of indirect impacts.

One additional pair of cactus wren will be placed in open space. Six pairs of cactus wren (46% on-site) will be impacted by this alternative and it remains a significant impact.

The Coon Canyon Alternative will not impact any raptor nests.

A majority of the wildlife corridors will remain intact but will be partially impacted by eliminating one branch of the corridor system leading to Coon Canyon. The viability of the corridor considered most important for wildlife movement in Coon Canyon will be impacted because it is adjacent to housing units. Movement by wildlife through the site will be impacted as animals move from the northern section southward, but this impact is greatly reduced from the proposed project. Wildlife movements will be impeded by the proposed development in the southern portion, forcing the animals to find alternate corridors.

Southern Development Only Alternative

Vegetation

Impacts to sensitive habitats will be greatly reduced from those estimated with the proposed project. Direct impacts to coastal sage scrub will be reduced to only 20 acres and no wetland habitats will be impacted. Non-native grassland direct impacts, however, will increase to 353 acres. A summary of acres of direct and indirect impacts from this alternative is listed in Table 8.

Plant Species

The Southern Development Only Alternative would impact 140 individual barrel cactus and less than 30% of the Palmer's grappling hook habitat. This alternative would eliminate impacts to Otay tarweed in the northern parcel but would impact nearly all of the Otay tarweed habitat in the southern parcel. Impacts would occur to individuals of California adolphia. Impacts to the San Diego marsh elder would be eliminated. None of the Munz's sage habitat would be impacted. Approximately 50% of the San Diego sunflower

individuals and none of the spiny rush individuals would be impacted. Significant impacts would occur to Otoy tarweed.

Wildlife Species

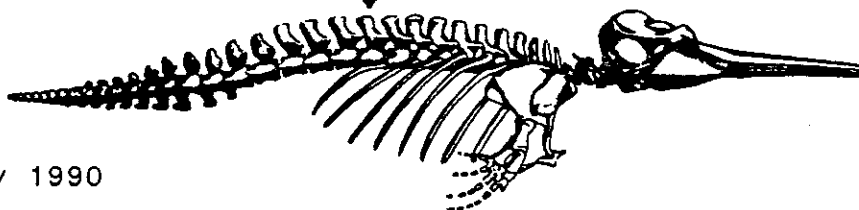
No significant impacts would occur to any wildlife species. This alternative would greatly reduce impacts to California gnatcatchers by impacting only 2 pairs compared to 48 impacted in the concept plan. No cactus wrens will be impacted by this alternative and no other sensitive species will be impacted. Impacts to wildlife movement corridors will be minimal because in the southern portion there are few corridors to be impacted and there is a large enough area to move around the development.

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APPENDIX D
PALEONTOLOGICAL RESOURCES REPORT

PALEO SERVICES

P.O. BOX 33671 SAN DIEGO, CA 92103



12 July 1990

Ms. Teri Fenner
Keller Environmental Associates, Inc.
1727 Fifth Avenue
San Diego, CA 92101

RE: Paleontological Resources; Rancho San Miguel

Dear Teri:

This letter report represents a summary of my findings concerning the paleontological resource potential of the Rancho San Miguel project area, San Diego County, California. As defined here, paleontological resources (i.e., fossils) are the remains and/or traces of prehistoric plant and animal life exclusive of man. Fossil remains such as bones, teeth, shells, leaves, etc. are found in the geologic deposits (rock formations) within which they were originally buried. For the purposes of this report, paleontological resources can be thought of as including not only the actual fossil remains but also the collecting localities, and the geologic formations containing those localities. Paleontological resources thus represent a limited, nonrenewable, and sensitive scientific and educational resource. In California, such resources are protected under regulations of the California Environmental Quality Act.

Because of the direct relationship between fossils and the geologic formations within which they are entombed, knowing the geology of a particular area and the proven fossil productivity of particular rock formations, one can reasonably predict where fossils will (or will not) be encountered. To this end, a general overview of the geologic setting of the Rancho San Miguel project area provides a foundation for evaluating the paleontological resources within the project area.

Determination of the paleontological resource potential of the Rancho San Miguel project area was based upon a review of published (Kennedy and Tan, 1977; Kuper, 1977; Scheidemann and Kuper, 1979), and unpublished (Geocon, 1986) geologic reports, published paleontological reports (Demere, 1986, 1988), and museum paleontological locality records (San Diego Natural History Museum-Department of Paleontology). No field survey of the project area was conducted.

Existing Conditions

Introduction- The project area involves approximately 2,600 acres located along the southeast shore of Sweetwater Reservoir, including the peak and western slopes of Mother Miguel Mountain and the topographically complex Horseshoe Bend and Gobblers Knob area. Elevations range from about 240 feet above sea level along Proctor Valley Road to over 1,520 feet on the peak of Mother Miguel Mountain.

General Geology- The project area lies at the boundary between two distinct geomorphic and geologic provinces: the western foothills of the Peninsular Range Province as represented by Mother Miguel Mountain, and the Coastal Plain Province as represented by the area south and west of Mother Miguel Mountain. This geomorphic division reflects a basic geologic difference between the two regions with Mesozoic meta-volcanic and plutonic rocks predominating to the east and Cenozoic sedimentary rocks predominating to the west (Figure 1). The irregular contact between these two geologic regions is a reflection of ancient topography wherein a mature landscape of hills and intervening valleys carved out of the older volcanic rocks, was buried beneath a thick, "layer cake" cover of younger river and ocean deposited sedimentary rocks (Kennedy and Tan, 1977).

In the project area, this sedimentary cover includes from youngest to oldest: Recent valley-fill alluvium, Unnamed river terrace deposits (approximately 40,000 years old), the Otay Formation (27-28 million years old; myo), and the Sweetwater Formation (40-43 myo).

Geology & Paleontology

The following section discusses the geology and paleontology of individual geologic deposits occurring within the project area:

--Quaternary alluvium (Qa1)

Introduction- Flooding Proctor Valley and the low-lying areas north of Horseshoe Bend are poorly consolidated stream sediments of relatively Recent age. In general, these deposits were laid down by the streams which presently occupy these drainages.

Paleontology- No fossils are known from the Quaternary alluvial deposits and their relative youthfulness would suggest that none will probably be found.

Distribution- Quaternary alluvial deposits occur extensively along the floor of Proctor Valley.

Resource Sensitivity- The Quaternary alluvial deposits in the project area possess an unknown paleontological resource sensitivity.

--Unnamed river terrace deposits (Qt)

Introduction- Deposits of coarse-grained, gravelly sandstones, pebble and cobble conglomerates, and claystones have been mapped as unnamed river terrace deposits (Geocon, 1986). The exact age of these deposits is presently uncertain but they are clearly related to late Pleistocene

(10,000 to 700,000 years old) climatic events (i.e. "Ice Age").

Paleontology- No fossil localities are recorded from these deposits in the project area. However, fossils have been collected from similar river terrace deposits exposed near the town of Bonita west of the study area. The Bonita site has produced well preserved remains of pond turtle, passenger pigeon, hawk, mole, gopher, squirrel, rabbit, and horse (Chandler, 1982). These fossils were recovered from fine-grained sandstones and gravelly claystones probably representative of a pond setting within the ancestral Sweetwater River Valley. The Bonita site is the richest known locality in coastal San Diego County for "Ice Age" mammals.

Distribution- Elevated river terrace deposits were mapped by Geocon (1986) on the small ridge on the south side of Coon Canyon. These deposits occur at an elevation of approximately 430 feet above sea level.

Resource Sensitivity- The general coarse-grained nature of these deposits coupled with the paucity of known fossil occurrences might suggest a low paleontological resource sensitivity. However, the fact that important vertebrate remains have been collected from at least one site indicates that potentially significant sites may be encountered elsewhere, and thus a moderate resource sensitivity is here assigned.

--Otay Formation (To)

Introduction- The Otay Formation is a primarily non-marine sedimentary rock unit of late Oligocene age (approximately 27-28 myo). Typical exposures consist of gray-white, medium-grained, tuffaceous sandstone. Brown and red-brown claystones also occur in the formation as do white, waxy bentonites (Schiedeman and Kuper, 1979). Based upon recent paleontological and geological field work in the Chula Vista, Otay Ranch, and Otay Mesa areas the Otay Formation is now considered to also include the tan gritstones and cobble to boulder fanglomerates formerly placed in the underlying Sweetwater Formation. This new arrangement is partly in keeping with the work of Kennedy and Tan (1977) but also reflects the recent discovery of "typical" Otay Formation fossils in the gritstones as exposed in Telegraph Canyon. For the present report however, the concept of the Otay Formation as recognized in the reports of Kuper (1977), Scheidemann and Kuper (1979), and Geocon (1986) will be followed. Under their usage the Otay Formation only consists of the white, tuffaceous sandstone and bentonite unit.

Paleontology- No fossil localities are known from the project area. However, this is not surprising considering that fossils were entirely unknown from the Otay Formation prior to initial construction of the EastLake community development located immediately south of Proctor Valley (Demere, 1986). During the mass excavation phase of this development well preserved remains of a variety of

terrestrial vertebrates were salvaged from the Otay Formation including remains of lizards, snake, tortoise, birds, shrew, rodents, rabbit, dog, fox, rhino, camels, mouse-deer, and oreodonts (Demere, 1988). Based on these recent discoveries the Otay Formation is now considered to be the richest source of late Oligocene terrestrial vertebrates in California.

Distribution- The Otay Formation is exposed in the area southwest of Mother Miguel Mountain adjacent to Proctor Valley Road.

Resource Sensitivity- The sandstone portion of the Otay Formation has produced extremely important vertebrate fossil remains and is here considered to possess a high paleontological resource sensitivity.

--Sweetwater Formation (Tsw)

Introduction- The Sweetwater Formation is a nonmarine rock unit of late Eocene age (approximately 40-43 myo). As discussed above, most previous workers (Kuper, 1977; Scheidemann and Kuper, 1979) considered the Sweetwater Formation to include a basal red mudstone unit overlain by tan gritstones and fanglomerates. Recent paleontological work in the Chula Vista area has shown that the gritstones contain the same vertebrate fossils as the overlying white sandstones of the "typical" Otay Formation. In addition, paleontological work in the Bonita Long Canyon area of eastern Chula Vista has documented the occurrence of latest Eocene terrestrial mammals in the red mudstones of the Sweetwater Formation. Thus the age difference between the mudstones and the gritstones of the "Sweetwater Formation" is at least 12 million years.

Paleontology- No fossils are currently known from the "Sweetwater Formation" mudstones within the project area. However as mentioned, vertebrate fossils have recently been recovered from the formation to the south in the Bonita Long Canyon area, as well as at EastLake. As with so many other examples, these fossils were collected during construction related excavation operations.

Distribution- The "Sweetwater Formation" is exposed in the Gobblers Knob area in the extreme southwest corner of the project area.

Resource Sensitivity- The mudstone portion of the "Sweetwater Formation" can be considered to have a high paleontological resource sensitivity. The gritstone portion of the "Sweetwater Formation" can be considered to have a moderate paleontological resource sensitivity.

--Santiago Peak Volcanics (JKsp)

Introduction- The name Santiago Peak Volcanics has been applied in the San Diego area (Kennedy, 1975) to a complex sequence of slightly metamorphosed volcanic rocks and marine sedimentary rocks of presumed late Jurassic age (approximately 140 myo). Recent radiometric analysis of these rocks by workers at San Diego State University suggests an early Cretaceous age (approximately 128 myo).

In Proctor Valley, exposures consist primarily of dark green volcanic breccias and greenstones with some dacitic flow rock. Meta-sediments have also been observed in the Proctor Valley area, where silicified sandstones and argillites are exposed as localized "pockets" within an area dominated by outcrops of volcanic breccia. This represents the only known occurrence of these meta-sediments south of Del Mar.

Paleontology- Because of the "firey" origin of volcanic rocks no fossils are expected to be found in the meta-volcanic portion of the Santiago Peak Volcanics. Exposures of the meta-sediments (in Los Penasquitos Canyon, and La Zanja Canyon, City of San Diego) on the other hand, have produced rare fossil remains of several types of marine invertebrates including belemnites (extinct squid-like animals) and clams (Jones and Miller, 1982). A single, poorly preserved belemnite specimen has been reported from the meta-sediments as exposed in Proctor Valley. This site is less than a mile east of the project area.

Distribution- The Santiago Peak Volcanics make up the bulk of Mother Miguel Mountain.

Resource Sensitivity- The meta-volcanic portion of the Santiago Peak Volcanics is considered to have no paleontological resource sensitivity. The meta-sedimentary portion of the formation has a low resource sensitivity.

The spacial distribution of these deposits as summarized in Figure 1 can be used to determine the geology of particular areas within the project area. As mentioned earlier, this becomes important from a planning stand point when it is realized that the distribution of paleontological resources (fossils) in an area is directly related to the distribution of the geologic layers within which the fossils are buried.

It is important to point out that many fossil sites presently on record in San Diego have been discovered only during residential development activities or during highway and freeway construction projects. This close correlation between fossil sites and construction is due to the fact that surface weathering quickly destroys most fossil materials. It is not until fresh unweathered exposures are made by grading that well preserved fossils can often be recovered. Also because of the amount of grading proposed for some sites, odds are increased that this grading will unearth rich fossil horizons.

In addition to this, knowing the past fossil potential of a particular geological "layer" in one area is a reliable method for determining the resource potential of that "layer" in other perhaps unexplored areas.

Impact Analysis

Impacts to significant paleontological resources occur when earth work activities, such as mass excavation projects, cut into geological deposits (formations) within which fossils are buried. These impacts are in the form of physical destruction of fossil remains. Since fossils are the remains of prehistoric animal and plant life they are considered to be nonrenewable. Therefore such impacts are significant and, under CEQA guidelines, require mitigation.

As discussed above, the project area is underlain by geological formations containing known paleontological resources (fossils) in the Proctor Valley/EastLake/Bonita Long Canyon area. From available preliminary plans it appears that extensive development will occur precisely in those areas underlain by formations with the highest paleontological resource sensitivity (i.e., the Horseshoe Bend and Gobblers Knob area). This is no doubt related to the fact that these formations are relatively easy to grade compared to the more resistant Santiago Peak Volcanics. In any event, residential development of this area will likely result in significant impacts.

Mitigation Measures

Mitigation of the impacts discussed above can be ensured by implementing the following measures:

[1] Prior to issuance of development permits, the project applicant should present a letter to the County of San Diego indicating that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques.)

[2] A qualified paleontologist should be at any pre-grade meetings to consult with grading and excavation contractors.

[3] A paleontological monitor should be on site at all times during the original cutting of previously undisturbed sediments of highly sensitive geologic formations (i.e., Otay and Sweetwater formations) to inspect cuts for contained fossils.

A paleontological monitor should be on site on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive geologic formations (i.e., Unnamed river terrace deposits) to inspect cuts for contained fossils.

A paleontological monitor should be on site on at least a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (i.e., Santiago Peak Volcanics; meta-sedimentary portion only) to inspect cuts for contained fossils.

A paleontological monitor should periodically inspect original cuts in deposits with an unknown resource sensitivity (i.e., Quaternary alluvium).

In the event that fossils are discovered in unknown, low or moderately sensitive formations it may be necessary to increase the per/day field monitoring time. Conversely, if fossils are not being found then the monitoring should be reduced.

A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics, meta-volcanic portion).

The areal distribution of the various geologic formations and their paleontological resource sensitivity is summarized in Figure 1) (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor should work under the direction of a qualified paleontologist.)

[4] When fossils are discovered, the paleontologist (or paleontological monitor) should recover them. In most cases this fossil salvage can be completed in a short period of time. However some fossil specimens (such as a complete large mammal skeleton) may require an extended salvage time. In these instances the paleontologist (or paleontological monitor) should be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovering of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances to set up a screen-washing operation on the site.

[5] Fossil remains collected during the monitoring and salvage portion of the mitigation program should be cleaned, repaired, sorted, and cataloged.

[6] Prepared fossils along with copies of all pertinent field notes, photos, and maps should then be deposited (with the owner's permission) in a scientific institution with paleontological collections such as the San Diego Natural History Museum.

[7] A final summary report should be completed which outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section exposed, fossils collected, and significance of recovered fossils.

[8] Selected roadcuts or large finished slopes in areas of interesting geology (e.g., Highway 125) should be left unlandscaped so they can serve as important educational and scientific reference exposures for future generations.

Please feel free to contact me if you have any questions concerning my findings.

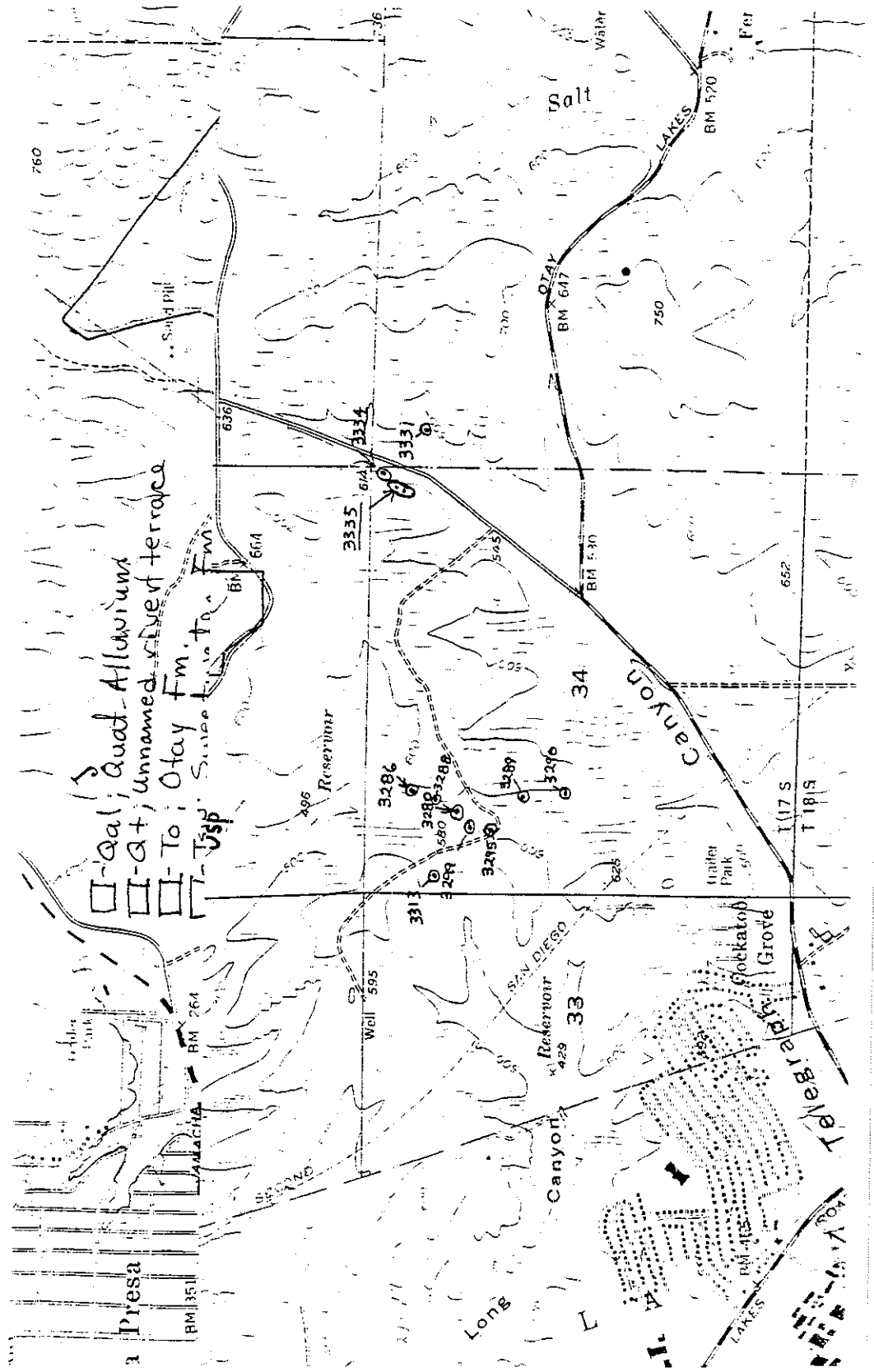
Sincerely yours,

Thomas A. Demere

Thomas A. Demere
PaleoServices, Inc.
(619)738-9905

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APPENDIX E

RANCHO SAN MIGUEL TRAFFIC ANALYSIS

DRAFT TECHNICAL REPORT

**RANCHO SAN MIGUEL
TRAFFIC ANALYSIS**

Prepared For

**The City of Chula Vista
and
ERCE, Inc.**

Prepared By

**JHK & Associates
8989 Rio San Diego Drive, Suite 335
San Diego, California 92108**

June 1991

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1. INTRODUCTION

This report documents the analysis of traffic impacts associated with the proposed Rancho San Miguel development project in the Chula Vista Eastern Territories area by JHK & Associates (JHK). The project, as proposed by Rancho San Miguel Partners, includes residential, school, commercial, park, conference center, and nature center land uses. Its location is shown in Figure 1-1. The project site consists of two non-contiguous parcels of land; the south parcel is located adjacent to Proctor Valley Road and the north parcel is proposed to be just east of Sweetwater Reservoir.

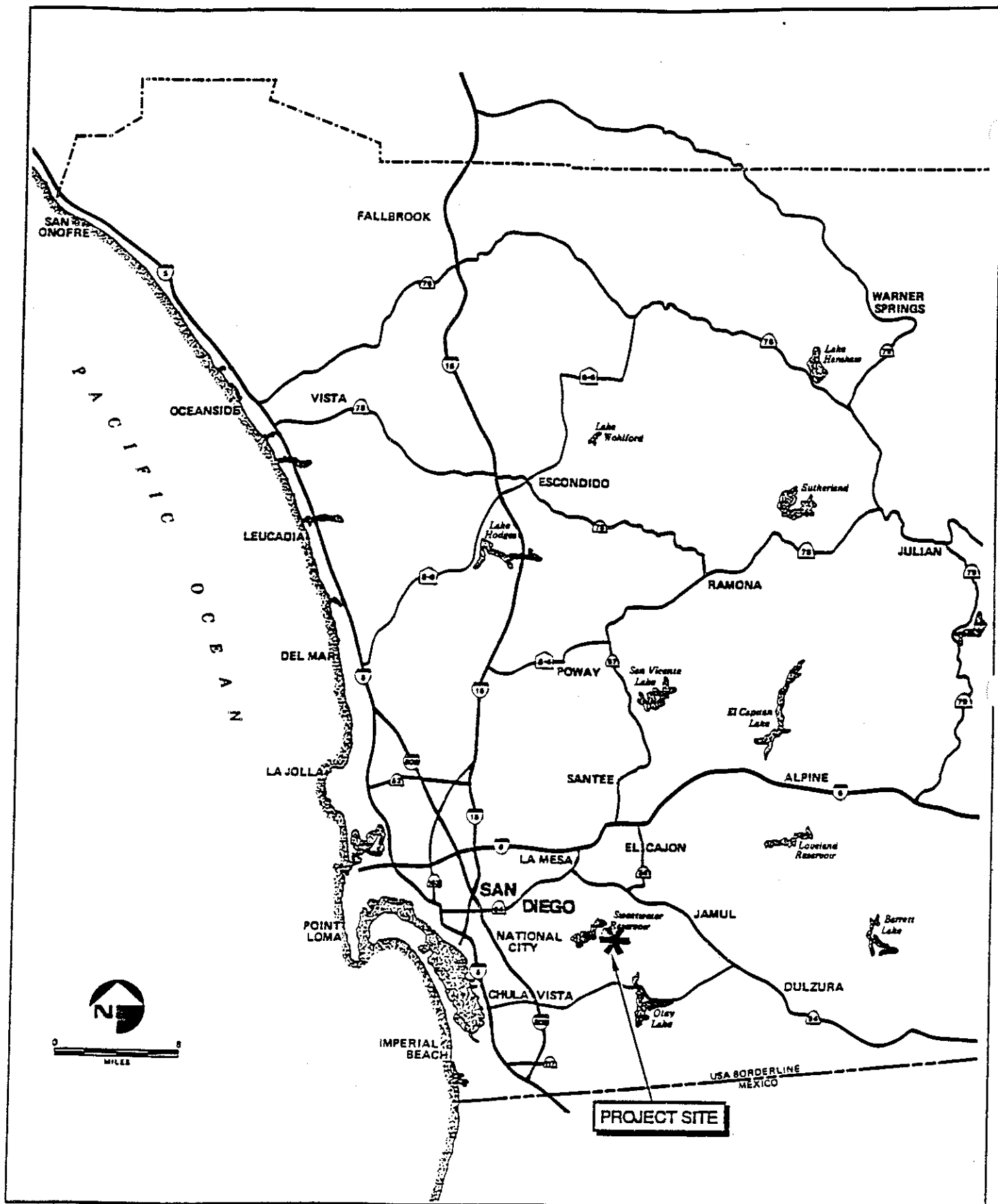
PROJECT BACKGROUND

The first task of this impact analysis was to review previously completed traffic analysis reports prepared by P & D Technologies and JHK for the project site in 1990. The technical content of these previous traffic studies was reviewed jointly by JHK and City of Chula Vista traffic engineering staff and applicable data was utilized in this report. However, the proposed land uses for the site have been modified and the report analyzes the forecasted impacts of the most recent land use proposal at a General Plan level. It is assumed that critical issues associated with the interim development of the site will be addressed in detail during the Specific Plan Area (SPA) stage of the development process.

SCOPE AND REPORT ORGANIZATION

This report begins with a description of the existing setting and an analysis of existing traffic conditions. Land use and trip generation for the proposed project are compared to the City of Chula Vista General Plan, followed by a description of the trip distribution procedures. Future traffic conditions are also discussed, and recommendations for the future improvements to the transportation system in the study area are presented. Finally, other General Plan related issues and topics to be discussed at the SPA stage of development are identified, including the following:

- Interim project development phasing
- County roadway facilities
- Light rail
- Other cumulative developments
- Future State Route 125 alignment
- Toll road impacts



Source: ERC Environmental and Energy Services Co.

Rancho San Miguel
Traffic Impact Analysis

JHK & Associates

Figure 1-1

REGIONAL LOCATION MAP

2. EXISTING CONDITIONS

PROJECT SETTING

The proposed Rancho San Miguel project is located in the Chula Vista Eastern Territory. As mentioned earlier, the project site consists of two separate parcels of land. The entire Rancho San Miguel project site is bounded generally by Proctor Valley Road on the west and south, the Otay water treatment facility and Mount Miguel to the east, and the Sweetwater River and Reservoir on the north and northwest. The north and south portions of the project site are separated by property owned by San Diego Gas and Electric. Currently, the project site is located outside the Chula Vista City limits, and is in the jurisdiction of San Diego County. Annexation into the City of Chula Vista is proposed to be processed concurrently with other discretionary actions in the area. The majority of the study area roadways are under San Diego County's jurisdiction. Much of the existing system consists of two-lane highways with few exceptions such as Bonita Road east of I-805. Conversely, the roadways within the City's jurisdictions have been improved rapidly and consist primarily of high capacity arterial facilities. Roadways such as East H Street and Telegraph Canyon Road either exist or are planned as multi-lane highways to accommodate the increase in traffic demand resulting from recent development growth in the Eastern Territories. Existing roadway configurations are shown in Figure 2-1. This figure also shows an outline of the project site which is repeated on all subsequent figures.

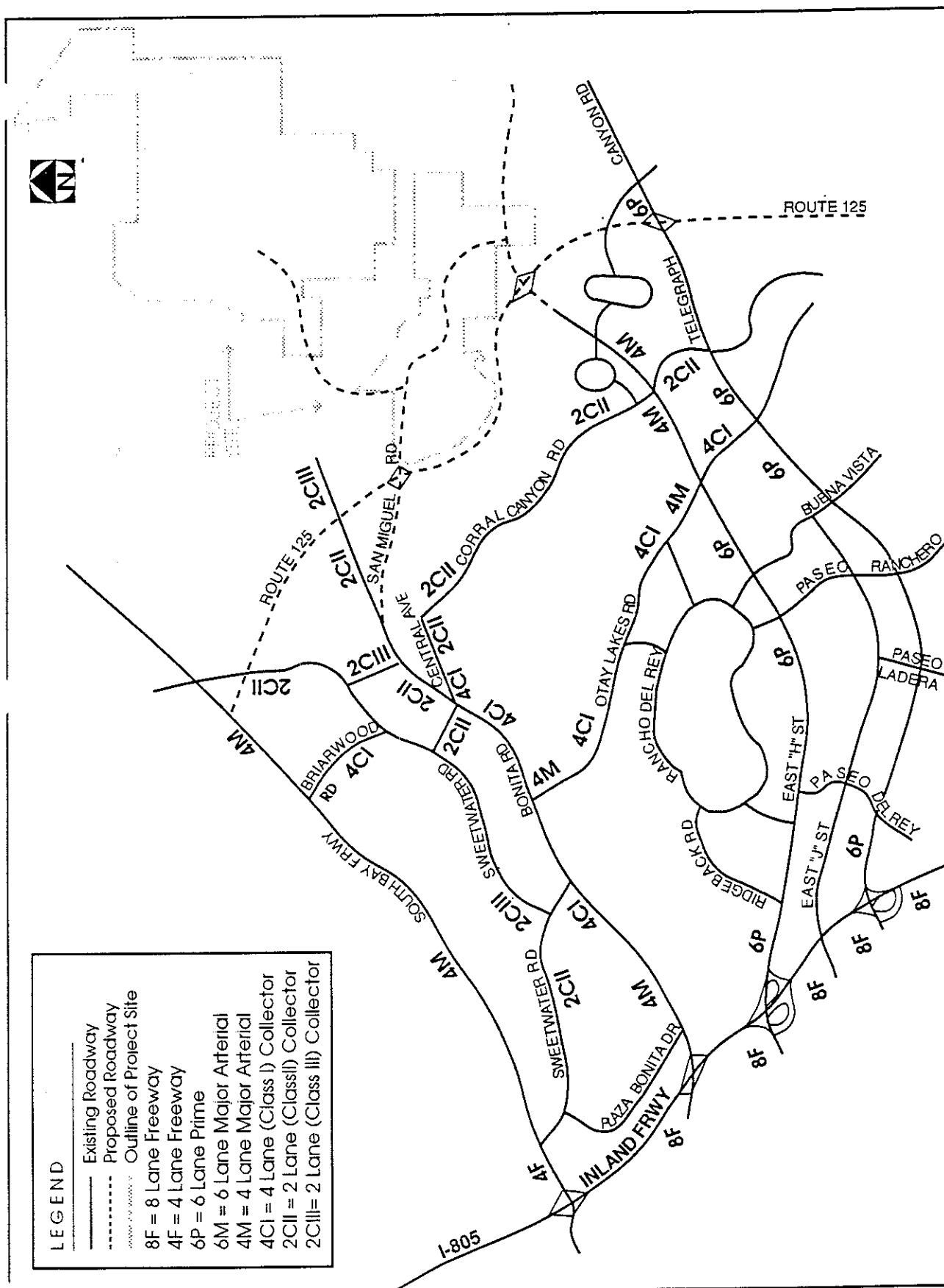
Currently access to the project site is provided by San Miguel Road, which ends at the west boundary of the northerly portion, and Proctor Valley Road, which borders the west and south property line of the south portion of the project site. Proctor Valley Road is partially improved to a point approximately 1500 feet south of San Miguel Road then becomes a dirt road which provides through access to the east to Jamul and is recognized as a public non-maintained road by the County of San Diego. The abutting parcel south of Rancho San Miguel is currently being developed by the Baldwin Company and is called Salt Creek I. Completion of this project will extend H Street to the west boundary of Rancho San Miguel and provide improvements to a realigned Proctor Valley Road which intersects with this new segment of H Street and provides access and frontage to Rancho San Miguel.

PLANNED ROADWAY IMPROVEMENTS

In the future, the roadway system within the study area will be improved dramatically to support anticipated development in the Eastern Territories. The most

notable addition to the network is the SR125 facility which is planned to run generally northwest/southeast through the immediate project area. The final alignment and location of the facility (including the San Miguel Road interchange) has not been determined at this time. Both the County and City General Plans anticipate major improvements to key arterials such as East H Street, Sweetwater Road, and Otay Lakes Road. Also, the connecting roadways between Bonita Road and Sweetwater Road will be improved from two-lane to four-lane facilities. It should be noted that many of the existing roadways within the City's jurisdiction surrounding the proposed project site are currently under construction according to buildout configuration recommended in the Chula Vista General Plan. The improvement of East H Street and Otay Lakes Road will be especially important for the proposed project, since some portion of the traffic from the site will be distributed to those two roads.

Development of Rancho San Miguel will include a four lane connection between H Street and Bonita Road which is necessary for adequate circulation and emergency access in adjacent City and County areas. This connecting link is proposed by the Circulation Element of the Chula Vista General Plan and will provide circulation in the area both prior to SR125 and after its construction.

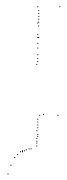

Rancho San Miguel

Traffic Impact Analysis

JHK & Associates

Figure 2-1

EXISTING ROADWAY CONFIGURATION/YEAR 1990



3. ANALYSIS OF EXISTING TRAFFIC

INTRODUCTION

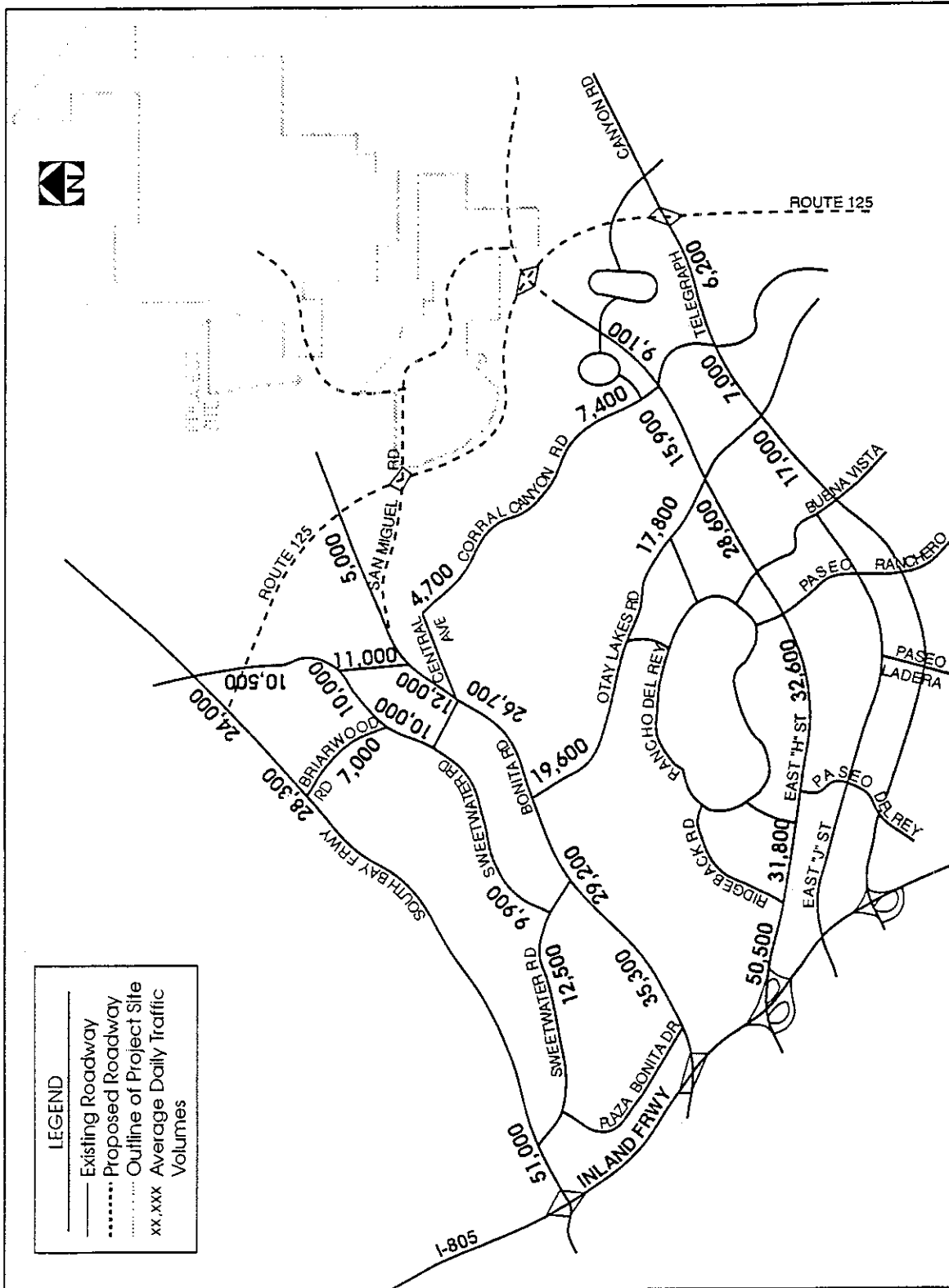
This chapter describes the analysis of existing traffic conditions within the Rancho San Miguel Project study area. The following sections of this chapter summarize the existing circulation network, including roadway segment classifications, daily volumes and desired capacities/levels of service (LOS) analysis.

CIRCULATION NETWORK

The location of the project site in relation to the existing and planned circulation network in the Eastern Territories was shown in Chapter 2. Regional access to the study area is currently provided by Interstate 805 in a north/south direction and by Bonita Road and East H Street in an east/west direction. Future north/south access will be provided by State Route 125. As shown in Chapter 2, access to the site is not currently provided, thus this report focuses on a General Plan level of analysis, while interim access issues surrounding this project must be addressed in SPA level EIR documents to be prepared in the future. A further discussion of these issues is provided in the final chapter of this report.

ROADWAY SEGMENT ANALYSIS

A summary of daily traffic volumes roadway segments in the study area is shown in Figure 3-1. The majority of the roadways in the study area are classified as major or collector facilities, with the exception of East H Street and Telegraph Canyon Road, which are classified as six-lane prime facilities for Year 1990 base conditions. The desired threshold average daily traffic (ADT) volume levels for LOS A through E conditions for each functional classification of roadway included in the study area are shown in Table 3-1. The basis for the development of this table was the new Chula Vista General Plan Circulation Element (June 1989). Additional sources which provide further traffic engineering criteria used in the development of this table included the City of Chula Vista Street Design Standards (July 1989) and San Diego Association of Governments (SANDAG) regional modeling input parameters and guidelines. Level of service C has been selected by the City of Chula Vista as the standard for all circulation element facilities. Hereafter, in this report, roadways operating at levels of service A through C are referred to as "under capacity" while roadways operating at levels of service D through F are referred to as "over capacity."



Source: City of Chula Vista and SANDAG

Rancho San Miguel
Traffic Impact Analysis

JHK & Associates

Figure 3-1
EXISTING TRAFFIC VOLUMES/YEAR 1990

Table 3-1

ROADWAY CAPACITY AND LEVEL OF SERVICE STANDARDS
AVERAGE DAILY TRAFFIC

Functional Class	Level of Service				E
	A	B	C	D	
Freeway (10 LN)	80,000	124,000	163,200	192,000	200,000
Freeway (8 LN)	64,000	99,200	130,560	153,600	160,000
Freeway (6 LN)	48,000	74,400	97,920	115,200	120,000
Freeway (4 LN)	32,000	49,600	65,280	76,800	80,000
Expressway (6 LN)	52,500	61,300	70,000	78,800	87,500
Prime Arterial (6 LN)	37,500	43,800	50,000	56,300	62,500
Major Street (6 LN)	30,000	35,000	40,000	45,000	50,000
Major Street (4 LN)	22,500	26,300	30,000	33,800	37,500
Class I Collector	16,500	19,300	22,000	24,800	27,500
Class II Collector	9,000	10,500	12,000	13,500	15,000
Class III Collector	5,600	6,600	7,500	8,400	9,400

Notes:

1. Levels of Service are not applied to residential streets since their primary purpose is to serve adjacent property and not to carry through traffic.
2. Levels of Service normally apply to facilities which carry through traffic between major trip generators and attractors.

Source: City of Chula Vista Street Design Standards, SANDAG Guidelines, JHK & Associates

Table 3-2 summarizes existing Year 1990 daily traffic volumes and desired roadway segment capacities for facilities in the project study area. This table also indicates the current operating condition for each segment, expressed as either "under capacity" or "over capacity," for existing volume conditions. Existing operating conditions are also graphically presented in Figure 3-2. Currently, three facilities in the study area experience operational difficulties due to high volume-to-capacity ratios. These facilities include Bonita Road, Sweetwater Road, and East H Street. These high volume segments are located immediately east of I-805.

Table 3-2

EXISTING YEAR 1990 SEGMENT LEVELS OF SERVICE

Segment	Existing Daily Traffic Volumes	Planning Level Design Capacity (LOS C ¹)	Ratio of Existing Traffic to Planning Level Capacity	Existing Segment Operations ²
<u>BONITA ROAD</u>				
Plaza Bonita to Willow	35,300	30,000	1.18	Over Capacity
Willow to Otay Lakes	29,200	22,000	1.33	Over Capacity
Otay Lakes to Central	26,700	22,000	1.21	Over Capacity
Central to San Miguel	12,000	22,000	0.55	Under Capacity
San Miguel to Sweetwater	11,000	22,000	0.50	Under Capacity
<u>CORRAL CANYON ROAD</u>				
Central to Blacksmith	4,700	12,000	0.39	Under Capacity
Coltridge to East H Street	7,400	12,000	0.62	Under Capacity
<u>EAST H STREET</u>				
I-805 to Ridgeback	50,500	50,000	1.01	Over Capacity
Ridgeback to Paseo Del Rey	31,800	50,000	0.64	Under Capacity
Paseo del Rey to Buena Vista	32,600	50,000	0.65	Under Capacity
Buena Vista to Otay Lakes	28,600	50,000	0.57	Under Capacity
Otay Lakes to Rutgers	15,900	30,000	0.53	Under Capacity
Rutgers to East Lake Drive	9,100	30,000	0.30	Under Capacity
<u>OTAY LAKES ROAD</u>				
Bonita to Canyon	19,600	30,000	0.65	Under Capacity
Canyon to East H Street	17,800	30,000	0.59	Under Capacity
<u>SAN MIGUEL ROAD</u>				
Bonita to Proctor Valley Road	5,000	22,000	0.23	Under Capacity
<u>SWEETWATER ROAD</u>				
Plaza Bonita to Willow	12,500	12,000	1.04	Over Capacity
Willow to Bonita	9,900	12,000	0.82	Under Capacity
Central to Briarwood	10,000	22,000	0.45	Under Capacity
Briarwood to Bonita	10,000	22,000	0.45	Under Capacity
Bonita to SR54	10,500	22,000	0.48	Under Capacity
<u>BRIARWOOD ROAD</u>				
SR54 to Sweetwater	7,000	22,000	0.32	Under Capacity
<u>TELEGRAPH CANYON ROAD</u>				
Buena Vista to Otay Lakes	17,000	50,000	0.34	Under Capacity
Otay Lakes to Rutgers	7,000	50,000	0.14	Under Capacity
Rutgers to SR125	6,200	50,000	0.12	Under Capacity

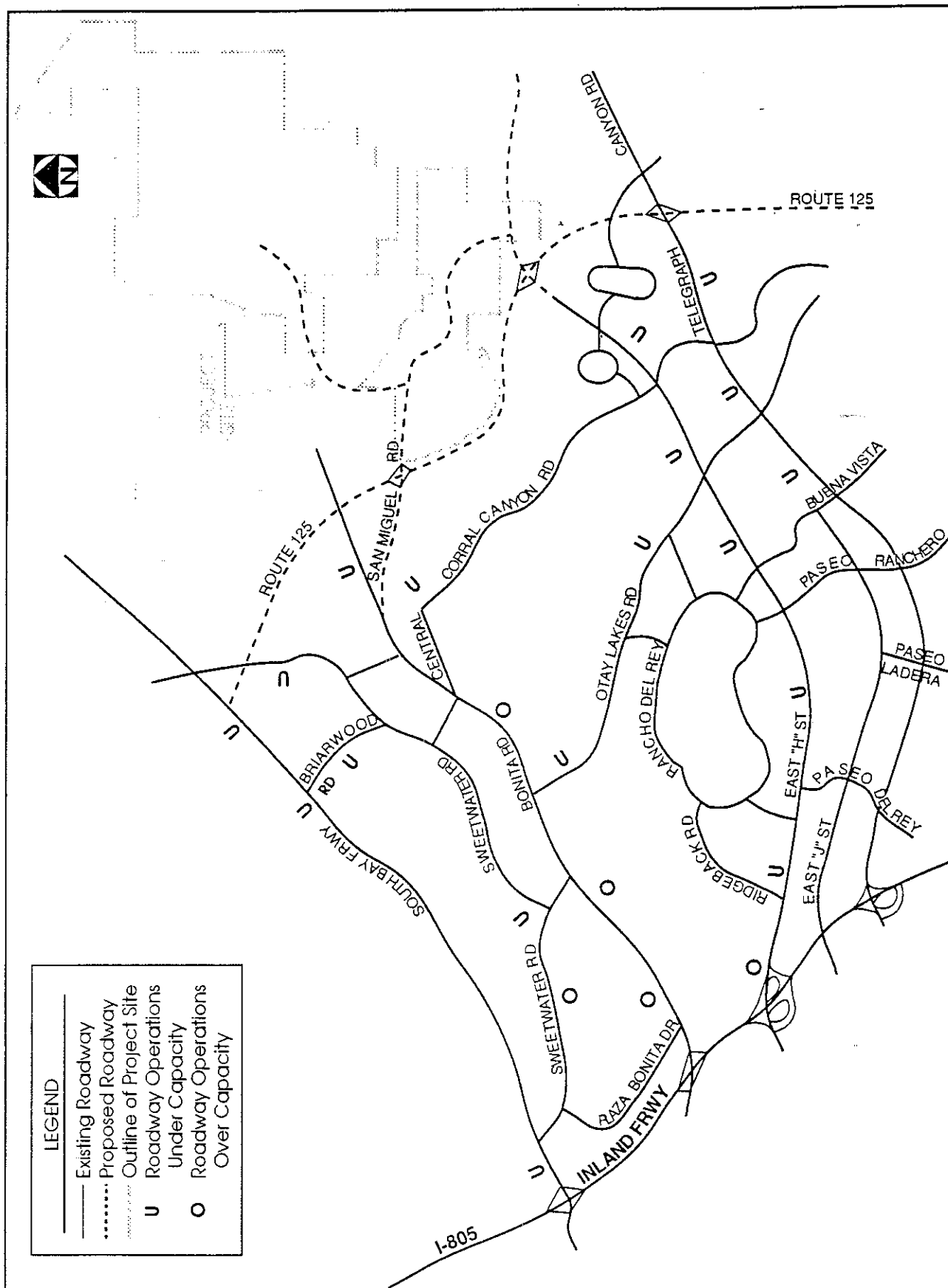
Table 3-2 (Continued)

EXISTING YEAR 1990 SEGMENT LEVELS OF SERVICE

Segment	Existing Daily Traffic Volumes	Planning Level Design Capacity (LOS C ¹)	Ratio of Existing Traffic to Planning Level Capacity	Existing Segment Operations ²
SR54				
I-805 to Reo	51,000	65,280	0.78	Under Capacity
Reo to Briarwood	28,300	30,000	0.94	Under Capacity
Briarwood to Sweetwater	24,000	30,000	0.80	Under Capacity

Sources: City of Chula Vista, SANDAG, JHK & Associates.

- Notes: 1. The City of Chula Vista currently plans for LOS C operating conditions as a minimum for all Circulation Element facilities. However, the Growth Management Plan Threshold Standard requires that signalized intersections operate at or above LOS D (LOS D not to exceed a total of two hours per day). Thus, segment levels of service may exceed LOS C while intersection operations must still adhere to the Threshold Standards.
2. Roadway operations are rated as "under capacity" or "over capacity" in relation to the City's minimum standards. An "under capacity" rating corresponds to levels of service A through C, while an "over capacity" rating corresponds to levels of service D through F.



Source: JHK & Associates

Rancho San Miguel
Traffic Impact Analysis

JHK & Associates

Figure 3-2
EXISTING LEVELS OF SERVICE/YEAR 1990

4. FUTURE CONDITIONS

This chapter describes expected future traffic conditions under the adopted General Plan and summarizes the procedure for determining the number of trips that will be generated by the proposed Rancho San Miguel Development Project. Also, a discussion of the anticipated distribution/assignment of trips from this project is provided. Due to the fact that there are many issues surrounding the provision of access to this site in the interim time frame, this JHK technical report focuses on the buildout condition only. Interim access requirements for the site must be addressed at the SPA stage of the development process.

ADOPTED GENERAL PLAN TRAFFIC CONDITIONS

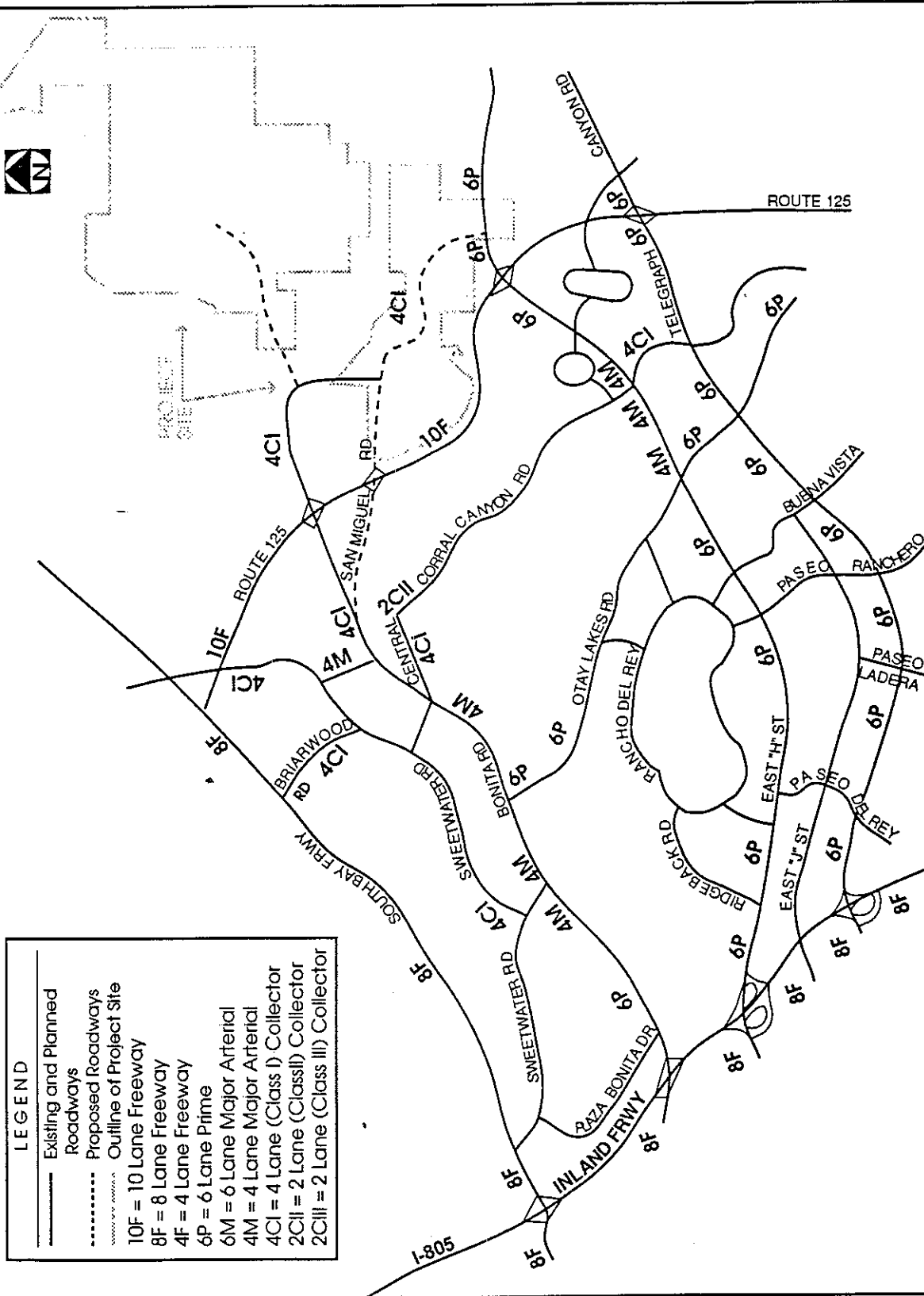
The expected traffic conditions under the Adopted General Plan are documented in Figures 4-1, 4-2 and 4-3. Figures 4-1 and 4-2 show Adopted General Plan roadway designations and proposed roadway designations while Figure 4-3 shows future traffic forecasts for full buildout conditions. The General Plan Traffic Forecast is based on the SANDAG traffic forecast model for the Chula Vista area.

TRIP GENERATION

The proposed Rancho San Miguel Development Project includes 1654 dwelling units, 11 acres of school, 27 acres of park, 17 acres of commercial, a conference center and a nature center. The land use plan and the number of trip ends generated from the project site are compared to the assumed General Plan Land Uses (Scenario Four) in Table 4-1. For the proposed project, approximately 55 percent of the trips will be generated by the residential development, 40 percent by shopping center development, and 5 percent will be generated by other uses. A total of 3,965 additional trips are expected to be added to the project site compared to the adopted General Plan conditions.

The shopping center trip generation rate for the project site shown in Table 4-1 (700 trips/acre) is based on the rate used for the SANDAG model run, and is the trip rate for the community shopping centers (10 to 30 acres) according to SANDAG Traffic Generators. Previous studies utilized a shopping center rate of 500 trips per day. The rate was revised because more detailed trip generation information is now available on commercial developments in the San Diego area. Because of this change in trip generation rates, the traffic increases caused by the project land uses compared to Adopted General Plan land uses are overstated. However, it was considered to be important to utilize the new SANDAG trip generation rates since it represents the best available information. Shown

LEGEND	
	Existing and Planned Roadways
	Proposed Roadways
	Outline of Project Site
10F	= 10 Lane Freeway
8F	= 8 Lane Freeway
4F	= 4 Lane Freeway
6P	= 6 Lane Prime
6M	= 6 Lane Major Arterial
4M	= 4 Lane Major Arterial
4CI	= 4 Lane (Class I) Collector
2CI	= 2 Lane (Class II) Collector
2CIII	= 2 Lane (Class III) Collector



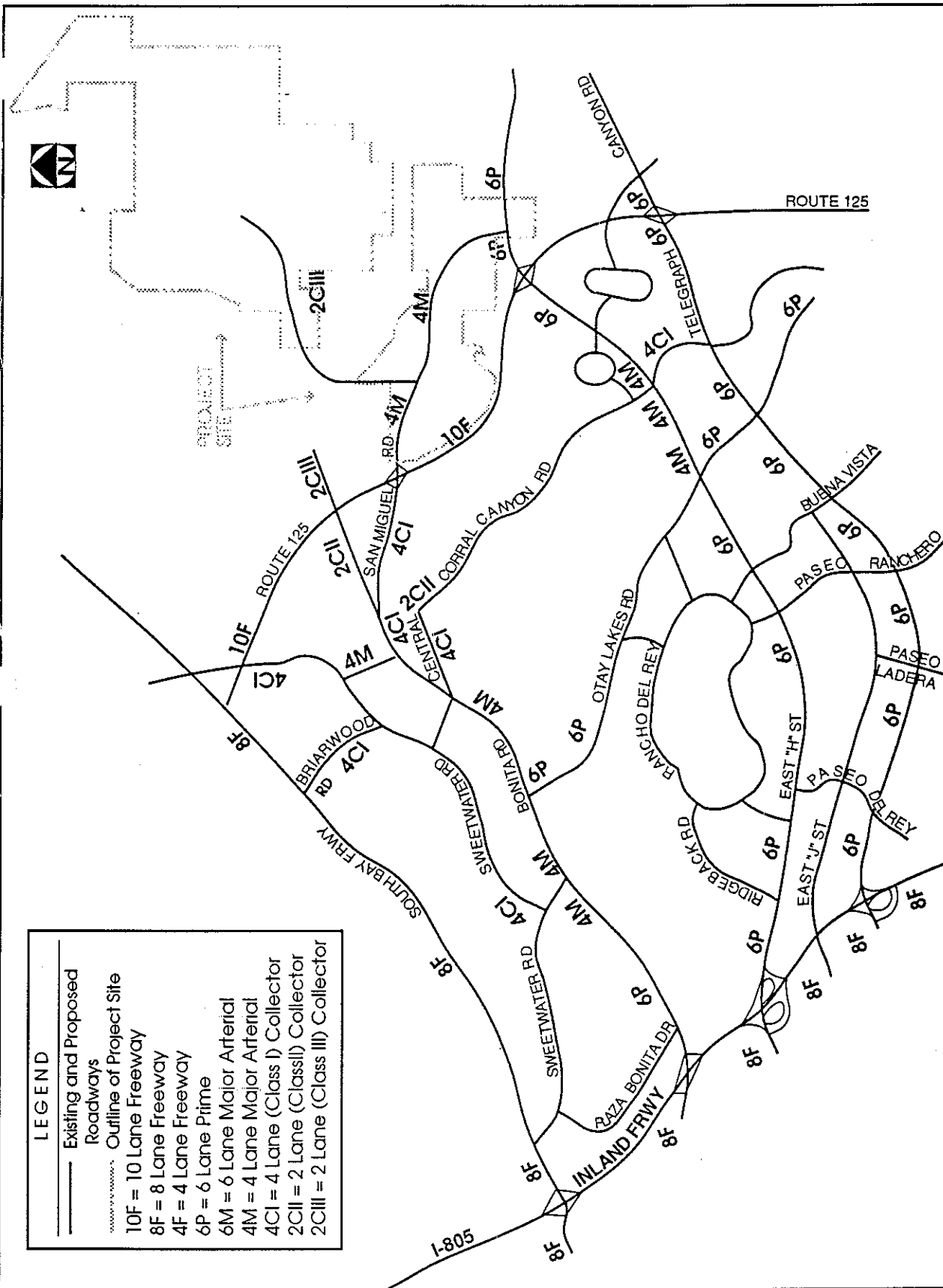
Source: City of Chula Vista and the County of San Diego General Plans

Rancho San Miguel
Traffic Impact Analysis

JHK & Associates

Figure 4-1

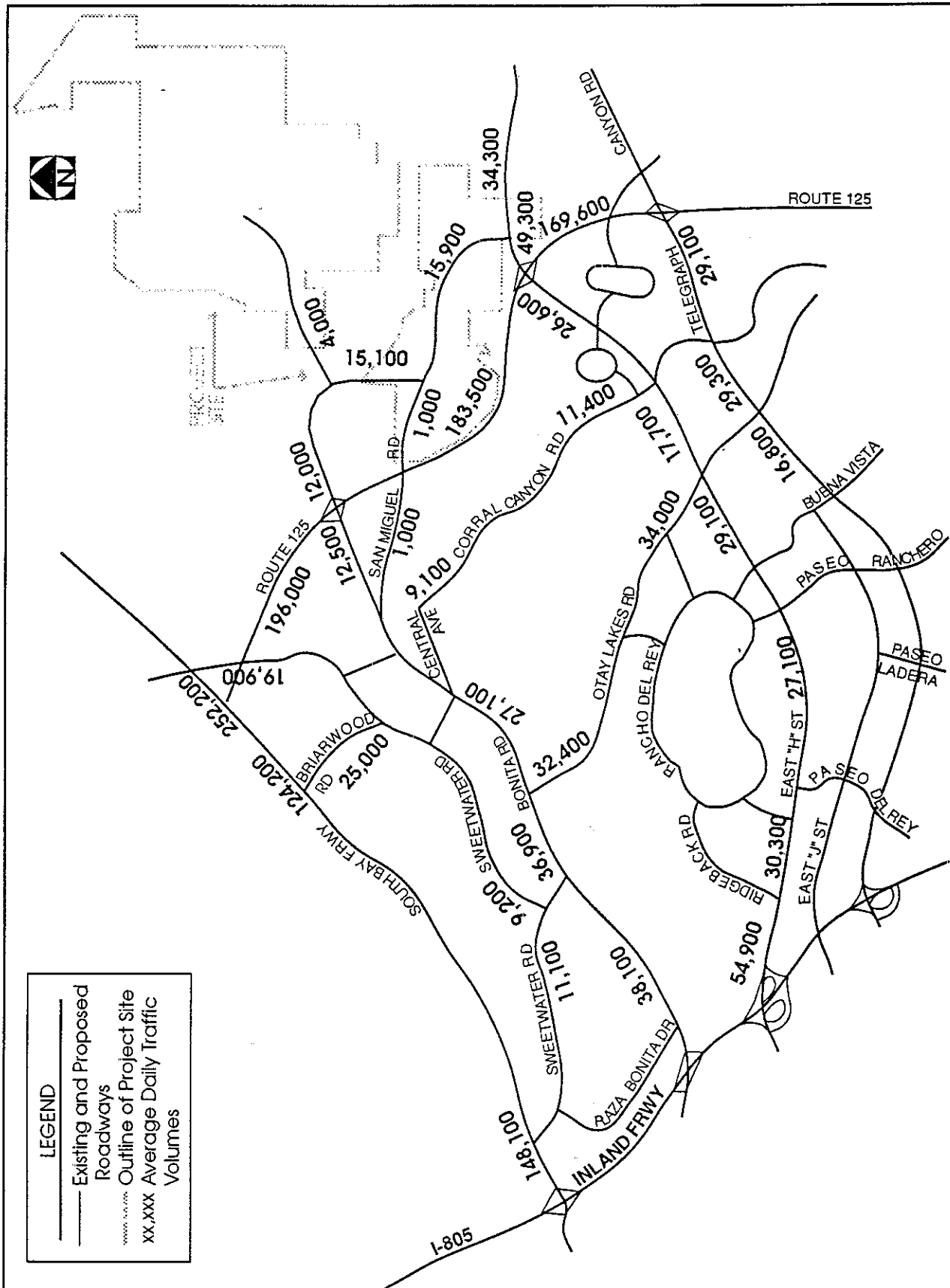
ADOPTED GENERAL PLAN ROADWAY DESIGNATION



Source: City of Chula Vista and the County of San Diego General Plans, JHK & Associates

Figure 4-2

PROPOSED ROADWAY DESIGNATION WITH RANCHO SAN MIGUEL PROJECT



Source: SANDAG (Eastlake 3 - Bayfront and OTC Revised Forecast, 10/4/89)

Rancho San Miguel
Traffic Impact Analysis

JHK & Associates

Figure 4-3

ADOPTED GENERAL PLAN TRAFFIC FORECAST

Table 4-1

**TRIP GENERATION COMPARISON
GENERAL PLAN TO PROPOSED PROJECT**

Land Use	Type	<u>Intensity</u>		Trip Rate	<u>Trip Ends</u>	
		General Plan	Proposed		General Plan	Proposed
Residential	DU	1,866	1,654	10/DU	18,660	16,540
School	AC	0	11	40/AC	0	440
Park	AC	2	21	5/AC	10	105
Community Shop. Ctr. (Current)	AC	0	17	700/AC	0	11,900
Community Shop. Ctr. (Gen. Plan)	AC	14	0	500/AC	7,000	0
Conference Center	AC	0	7	50	0	350
Nature Center	AC	0	6	50/AC	0	300
Total ADT at Scenario Four Assumed Rate*					25,670**	29,635**

Source: San Miguel Partners, SANDAG, JHK & Associates.

Notes: *Trip rate used for General commercial uses in the subregional travel forecast model (TRANPLAN).

**Difference: $29,635 - 25,670 = 3,965$ ADT above General Plan CirculationElement assumptions for this development site. This represents an increase in trip activity for this site of approximately 15 percent. It is important to recognize that the main reason for this net traffic increase is due to the change in the trip generation rates for Community Shopping Center, and that the proposed project would represent only a 2 percent increase in trip generation if the previous trip generation rate were used.

below is a comparison of the project traffic increases caused by more intense land use compared to the project traffic increases caused by the revised trip generation rate.

<u>Trip Generation Component</u>	<u>Number of Daily Trips</u>	<u>% of Total</u>
Adopted General Plan Land Uses	25,670	87%
Additional Trips Generated by Project Land Uses	565	2%
Additional Trips Caused by Trip Generation Rate Increase	3,400	11%
TOTAL	29,635	100 %

The comparison of adopted General Plan land use versus proposed project land use was developed by conducting research into the current land uses specified in the regional traffic forecasting model. On a cumulative trip generation basis, the planned developments currently proposed within the study area (Eastern Territories) are consistent with the development shown in the adopted Chula Vista General Plan. Additional information regarding this analysis is included in Appendix A.

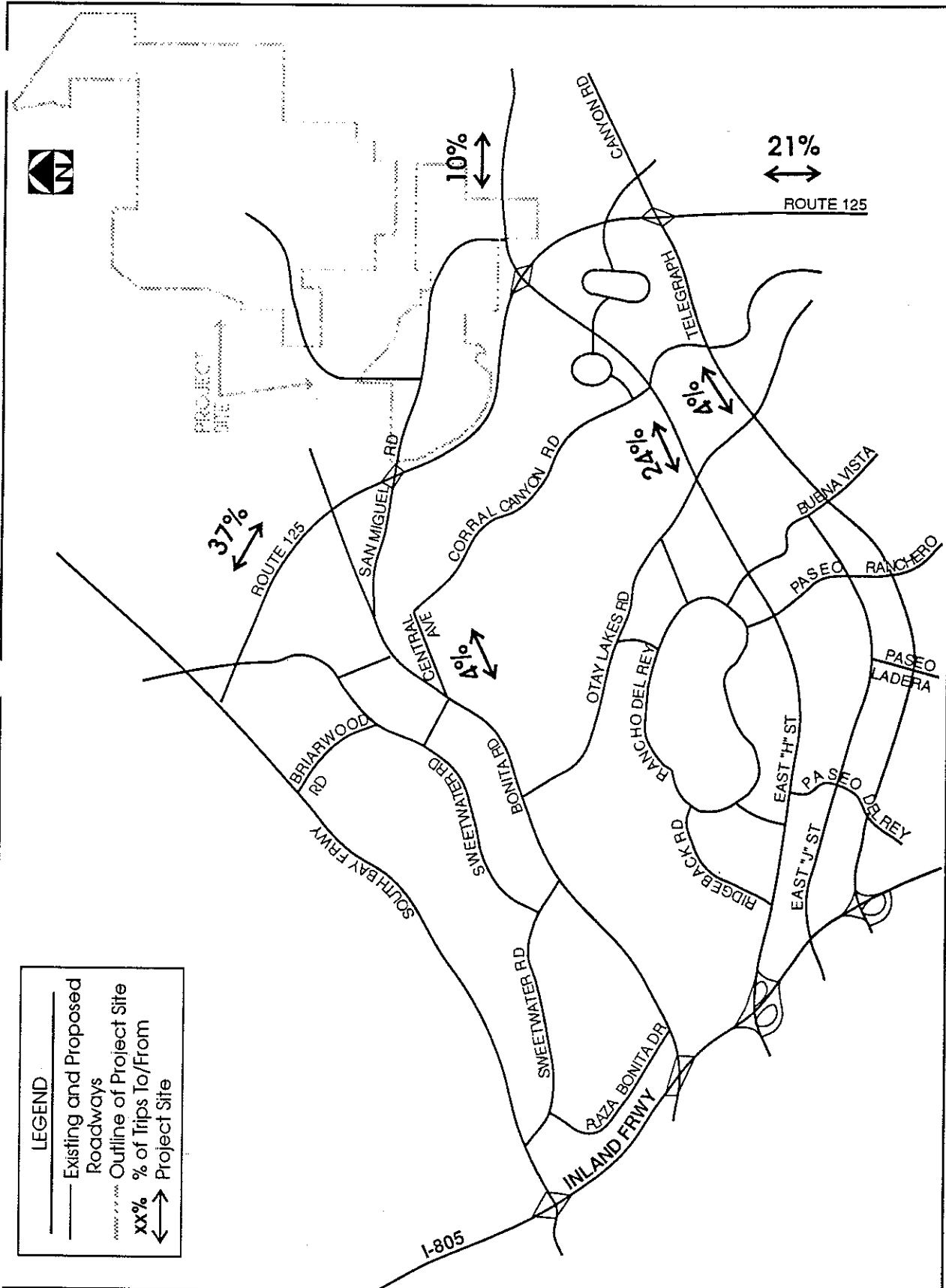
PROPOSED PROJECT TRIP DISTRIBUTION

Traffic generated by the proposed project was distributed on the transportation network as shown in Figure 4-4. The distribution of project traffic is based on a select zone assignment performed by SANDAG for Chula Vista General Plan buildout forecast.

More than half of the trips (approximately 58 percent) will be distributed onto SR 125 since the majority of the trips to the San Diego region north of Chula Vista and major employment areas to the south will use this roadway. In addition, 10 percent of the project traffic is expected to be distributed to the east on East H Street, 4% to the west on Telegraph Canyon Road, 24 percent to the west on East H Street, 4 percent to the West on San Miguel Road.

PROJECT TRAFFIC VOLUMES

Based on the trip generation and trip distribution analysis described above, project-generated trips were calculated and assigned to the street system. Figure 4-5 shows expected projected-generated traffic. Figure 4-6 shows expected traffic forecasts for General Plan traffic conditions with land use modifications for the project as identified in Table 4-1.



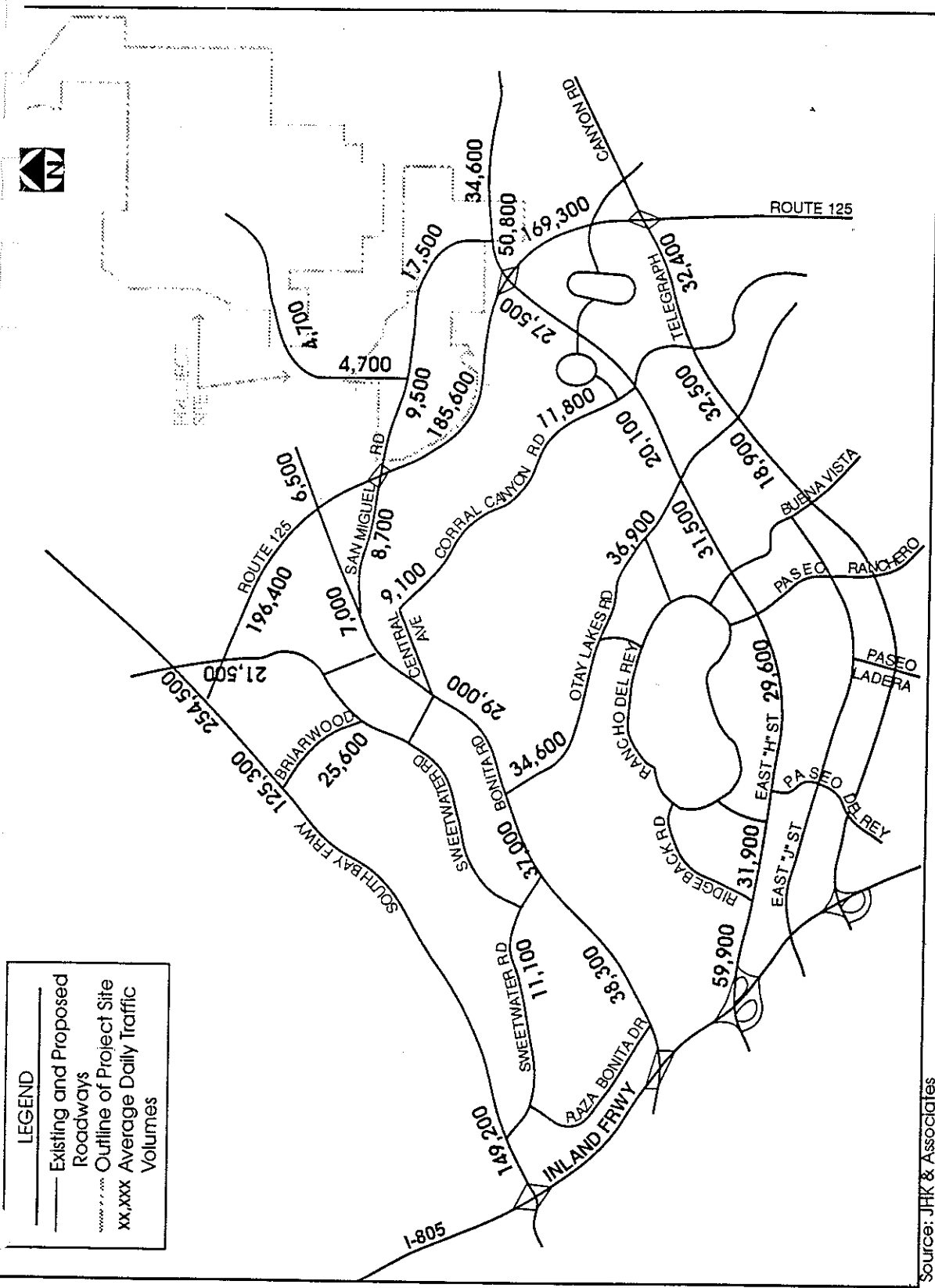
Source: JHK & Associates

Rancho San Miguel
Traffic Impact Analysis

JHK & Associates

Figure 4-4

PROJECT TRIP DISTRIBUTION/GENERAL PLAN BUILDOUT



Source: JHK & Associates

Rancho San Miguel
Traffic Impact Analysis

JHK & Associates

Figure 4-6

ADOPTED GENERAL PLAN PLUS PROJECT TRAFFIC ASSIGNMENT

5. ANALYSIS OF FUTURE TRAFFIC CONDITIONS

INTRODUCTION

This chapter documents the results of the traffic analysis performed by JHK for the Rancho San Miguel Development project. Initially, this chapter presents the roadway and intersection design standards which were used by JHK. This section is followed by an analysis of study area roadway segments and critical intersections. It is important to recognize that the analysis of future traffic conditions detailed in this report is based solely on the buildout condition and impacts associated with the development of this project in the interim time frame will be addressed by the traffic analysis report to be prepared for the SPA submittal.

DESIGN STANDARDS

The following sections discuss the design standards used by JHK to conduct the traffic analysis for study area street segments and intersections. The Street Design Standards Policy developed by the City of Chula Vista Traffic Engineering Department and JHK (July 1989) provided the technical information source for analyzing network improvements alternatives.

Roadway Segment Design Standards

Table 5-1 summarizes the characteristics of each functional classification of roadway included in our analysis.

Intersection Design Standards

Table 5-2 summarizes the typical geometric characteristics of major Circulation Element intersections. The table defines the configuration of turn lanes for each approach depending on the combination of intersecting facilities. These standards are shown for informational purposes only. Lane configurations will need to be addressed when the project reaches the SPA phase.

Table 5-1
STANDARDS OF STREET DESIGN STANDARDS

Functional Class	Design ADT Standards	Access Control	R-O-W	X-Section	Raised Median	Center Turn Lane	Signals Per Mile
6-Lane Expressway*	70,000	Yes	128'	104'	Yes	No	None*
6-Lane Prime	50,000	Yes	128'	104'	Yes	No	2
6-Lane Major	40,000	Yes	128'	104'	Yes	No	4
4-Lane Major	28,000	Yes	104'	80'	Yes	No	4
4-Lane Class I	22,000	Yes	94'	74'	No	Yes	4
2-Lane Class II	12,000	No	72'	52'	No	Yes	N/A
2-Lane Class III	7,500	No	60'	40'	No	Yes	N/A

Source: City of Chula Vista Street Design Standards Policy (July 1989).

Note: * Grade separated urban interchanges are provided at all major crossing points (typical spacing is approximately one mile).

Table 5-2

SUMMARY OF CITY OF CHULA VISTA INTERSECTION DESIGN STANDARDS

Mainline Street	Meets	Single LT Lane	Double LT Lane	Exclusive RT Lane
Class I Collector	Class I Collector	*	No	No
Class I Collector	Major	*	No	No
Class I Collector	Prime	*	No	No
Major	Class I Collector	*	No	No
Major	Major	*	Yes	No
Major	Prime	*	Yes	Yes
Prime	Class I Collector	*	No	No
Prime	Major	*	Yes	Yes
Prime	Prime	*	Yes	Yes

Source: City of Chula Vista Street Design Standards Policy (July 1989).

* Single Left Turn Lane is Provided for in Typical Cross Section.

Notes: RT - Right Turn
LT - Left Turn

SEGMENT ANALYSIS

Forecasted traffic volumes were compared to City standards for roadway operations in order to evaluate the need for roadway improvements to mitigate project traffic impacts. For each roadway segment, a determination was made as to whether the traffic level will be above or below the City's standard for traffic operations based on the roadway configuration shown in the Adopted General Plan. In addition, a volume to capacity (v/c) ratio was calculated by dividing the forecasted volume by the traffic threshold specified by the City's standards. It should be mentioned that the capacity of the roadway was determined for the lane configuration specified in the amended General Plan Circulation Element. These amendments to the original Circulation Element were necessary due to recent changes in land use assumptions for the Eastern Territories Area of the Chula Vista (e.g., Eastlake II and III). As a result, several arterials, such as Telegraph Canyon Road and East H Street, were upgraded. The revisions identified in the Eastlake III study and the final General Plan included upgrading Telegraph Canyon Road from SR125 to Hunte Parkway, to six-lane prime arterial. The standards and methodology for determining segment capacities and levels of service are documented in Chapter 3. Table 5-3 documents future levels of service for all study roadway segments based on the functional roadway classifications recommended in the Final General Plan Circulation Element (with Eastlake III amendments). Each segment was analyzed under each of the scenarios described below:

Scenario 1 - Final General Plan Traffic Assignment

Scenario 2 - Modified General Plan Traffic Assignment with Proposed Rancho San Miguel Project Distribution

A graphic summary of the roadway volumes was shown on Figure 4-2 in the previous chapter. Table 5-4 provides information regarding the percentage of trips which are site-generated for various roadways in the area.

INTERSECTION ANALYSIS

For the purpose of this buildout traffic analysis, it was determined by the City that the review of peak hour impacts at major signalized intersections within the project study area would not be necessary. Rather, this detailed analysis of future intersection operations and geometric requirements will occur in subsequent EIR documents to be prepared at the SPA stage of development. Thus, JHK has not included an analysis of peak hour intersection performance in this document.

Table 5-3

**DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT**

Segment	General Plan Circulation Element Functional Classification	General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions	General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions¹
<u>BONITA ROAD</u>			
Plaza Bonita to Willow	Four-Lane Major	38,100/1.27/Over	38,300/1.28/Over
Willow to Otay Lakes	Four-Lane Major	36,900/1.23/Over	37,000/1.23/Over
Otay Lakes to Central	Four-Lane Major	27,100/0.90/Under	29,000/0.97/Under
Central to San Miguel	Class I Collector	21,200/0.96/Under	22,900/1.04/Over
San Miguel to Sweetwater	Class I Collector	20,900/0.95/Under	22,600/1.03/Over
<u>CORRAL CANYON RD.</u>			
Central to Blacksmith	Class II Collector	9,100/0.76/Under	9,100/0.76/Under
Coltridge to East H Street	Class II Collector	11,400/0.95/Under	11,800/0.98/Under
<u>EAST H STREET</u>			
I-805 to Ridgeback	Six-Lane Prime	59,900/1.20/Over	60,200/1.20/Over
Ridgeback to Paseo del Rey	Six-Lane Prime	30,300/0.61/Under	31,900/0.64/Under
Paseo del Rey to Buena Vista	Six-Lane Prime	27,100/0.54/Under	29,600/0.59/Under
Buena Vista to Otay Lakes	Six-Lane Prime	29,100/0.58/Under	31,500/0.63/Under
Otay Lakes to Rutgers	Four-Lane Major	17,700/0.59/Under	20,100/0.67/Under

Table 5-3 (Continued)

**DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT**

Segment	General Plan Circulation Element Functional Classification	General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions	General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions¹
<u>EAST H STREET (cont.)</u>			
Rutgers to SR125	Four-Lane Major	26,600/0.89/Under	27,500/0.92/Under
SR125 to San Miguel	Six-Lane Prime	49,300/0.99/Under	50,800/1.02/Over
San Miguel to Hunte	Six-Lane Prime	34,300/0.69/Under	34,600/0.69/Under
<u>OTAY LAKES ROAD</u>			
Bonita to Canyon	Six-Lane Prime	32,400/0.65/Under	34,600/0.69/Under
Canyon to East H St.	Six-Lane Prime	34,000/0.68/Under	36,900/0.74/Under
<u>SAN MIGUEL CONNECTOR ROAD (SAN MIGUEL RANCH ROAD)</u>			
Bonita to SR 125	Class I Collector	1,000/0.05/Under	8,700/0.39/Under
SR125 to Project Access Rd.	Four-Lane Major	1,000/0.03/Under	9,500/0.32/Under
Project Access Rd. to East H St.	Four-Lane Major	15,900/0.53/Under	17,500/0.58/Under
<u>SR 125</u>			
SR 54 to San Miguel	Ten-Lane Freeway	196,000/1.20/Over	196,400/1.20/Over
San Miguel to East H St.	Ten-Lane Freeway	183,500/1.12/Over	185,600/1.14/Over
East H St. to Telegraph Cy Rd	Ten-Lane Freeway	169,600/1.04/Over	169,300/1.04/Over

Table 5-3 (Continued)

**DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT**

Segment	General Plan Circulation Element Functional Classification	General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions	General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions¹
<u>SWEETWATER ROAD</u>			
Plaza Bonita to Willow	Class I Collector	11,100/0.50/Under	11,100/0.50/Under
Willow to Bonita	Class I Collector	9,200/0.42/Under	9,200/0.42/Under
Central to Briarwood	Class I Collector	9,300/0.42 Under	9,300/0.42/Under
Briarwood to Bonita	Class I Collector	2,200/0.10/Under	2,200/0.10/Under
Bonita to SR 54	Class I Collector	19,900/0.90/Under	21,500/0.98 Under
<u>BRIARWOOD ROAD</u>			
SR 54 to Sweetwater	Class I Collector	25,000/1.14/Over	25,600/1.16/Over
<u>SR-54</u>			
I-805 to Reo	Eight-Lane Freeway	148,100/1.13/Over	149,200/1.14/Over
Reo to Briarwood	Eight-Lane Freeway	124,200/0.95/Under	125,300/0.96/Under
Briarwood to Sweetwater	Eight-Lane Freeway	252,200/1.93/Over	254,500/1.95/Over
<u>SAN MIGUEL ROAD</u>			
San Miguel Connector Rd. to SR 125	Class I Collector	12,500/0.57/Under	7,000/0.33/Under
SR 125 to Project Boundary	Class I Collector	12,000/0.55/Under	6,500/0.30/Under

Table 5-3 (Continued)

DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT

Segment	General Plan Circulation Element Functional Classification	General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions	General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions ¹
<u>PROJECT ACCESS ROAD</u>			
North of San Miguel Connector Rd.	Class II Collector	4,000/0.33/Under	4,700/0.27/Under
<u>TELEGRAPH CANYON ROAD</u>			
Buena Vista to Otay Lakes	Six-Lane Prime	16,800/0.34/Under	18,900/0.38/Under
Otay Lakes to Rutgers	Six-Lane Prime	29,300/0.59/Under	32,500/0.65/Under
Rutgers to SR125	Six-Lane Prime	29,100/0.58/Under	32,400/0.65/Under

Sources: Chula Vista General Plan, San Diego County General Plan, SANDAG, JHK & Associates.

Note: 1. Roadway operations are described as either under capacity or over capacity as discussed in Chapter 2.

TABLE 5-4
PROJECT CONTRIBUTION TO BUILDOUT TRAFFIC LEVELS

<u>Segment</u>	<u>Adopted General Plan ADT With No Development At Project Site</u>	<u>Adopted General Plan ADT With Project</u>	<u>Project Site Contribution to Buildout Traffic Level</u>
<u>BONITA ROAD</u>			
Plaza Bonita to Willow	36,800	38,300	3.9%
Willow to Otay Lakes	36,300	37,000	1.9%
Otay Lakes to Central	28,300	29,000	2.4%
Central to San Miguel	21,400	22,900	6.6%
San Miguel to Sweetwater	21,900	22,600	3.1%
<u>CORRAL CANYON RD.</u>			
Central to Blacksmith	9,100	9,100	0.0%
Coltridge to East H Street	11,400	11,800	3.4%
<u>EAST H STREET</u>			
I-805 to Ridgeback	58,000	60,200	3.7%
Ridgeback to Paseo del Rey	31,500	31,900	1.3%
Paseo del Rey to Buena Vista	29,000	29,600	2.0%
Buena Vista to Otay Lakes	30,600	31,500	2.9%
Otay Lakes to Rutgers	18,100	20,100	10.0%
Rutgers to SR 125	24,800	27,500	9.8%
SR 125 to San Miguel	36,800	50,800	27.6%
San Miguel to Hunte	31,600	34,600	8.7%

Table 5-4 (Continued)

PROJECT CONTRIBUTION TO BUILDOUT TRAFFIC LEVELS

Segment	Adopted General Plan ADT with No Development at Project Site	Adopted General Plan ADT With Project	Project Contribution to Buildout Traffic Level
<u>OTAY LAKES ROAD</u>			
Bonita to Canyon	34,400	34,600	0.6%
Canyon to East H St.	36,500	36,900	1.1%
<u>SAN MIGUEL CONNECTOR ROAD</u> (San Miguel Ranch Road)			
Bonita to SR 125	8,400	8,700	3.4%
SR125 to Project Access Rd.	3,800	9,500	60.0%
Proejct Access Rd. to East H St.	500	17,500	97.1%
<u>SR 125</u>			
SR 54 to San Miguel	186,100	196,400	5.2%
San Miguel to East H St.	177,300	185,600	4.5%
East H St. to Telegraph Cyn Rd	162,700	169,300	3.9%
<u>SWEETWATER ROAD</u>			
Plaza Bonita to Willow	11,100	11,100	0.0%
Willow to Bonita	9,200	9,200	0.0%
Central to Briarwood	9,300	9,300	0.0%
Briarwood to Bonita	2,200	2,200	0.0%
Bonita to SR 54	21,500	21,500	0.0%
<u>BRIARWOOD ROAD</u>			
SR 54 TO Sweetwater	25,500	25,600	0.4%

Table 5-4 (Continued)

PROJECT CONTRIBUTION TO BUILDOUT TRAFFIC LEVELS

Segment	Adopted General Plan ADT with No Development at Project Site	Adopted General Plan ADT With Project	Project Contribution to Buildout Traffic Level
<u>SR 54</u>			
I-805 to Reo	144,200	149,200	3.4%
Reo to Briarwood	119,800	125,300	4.4%
Briarwood to Sweetwater	249,900	254,500	1.8%
<u>SAN MIGUEL ROAD</u>			
San Miguel Rd. to SR 125	6,500	6,500	0.0%
SR 125 to Project Boundary	7,000	7,000	0.0%
<u>PROJECT ACCESS ROAD</u>			
North of San Miguel Road	0	4,700	100.0%
<u>TELEGRAPH CANYON ROAD</u>			
Buena Vista to Otay Lakes	18,700	18,900	1.1%
Otay Lakes to Rutgers	32,200	32,500	0.9%
Rutgers to SR 125	32,000	32,400	1.2%

Sources: SANDAG and JHK & Associates

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6. MITIGATION MEASURES AND FUTURE ISSUES

INTRODUCTION

This chapter describes the evaluation and development of appropriate mitigation measures required to address traffic and operational impacts resulting from the proposed Rancho San Miguel Development Project. Additionally, JHK has included a discussion of critical issues associated with the development of the project in the interim time frame and at buildout.

BUILDOUT MITIGATION MEASURES

The cumulative impacts of trips generated by the proposed development project at buildout were identified and analyzed in Chapter 5. The overall conclusion of this analysis is that the implementation of the project will add only minor traffic increases compared to the land uses proposed by the Adopted General Plan. It should be noted that the impacts of the change in land use are overstated because of a change in trip generation rates used by SANDAG for commercial uses.

In consideration of the additional traffic generated by the project and the proposed modifications to the roadway network, the following changes in functional classification are recommended as mitigation measures:

- Designation of the new alignment of San Miguel Road as a Four-Lane Major Street between East H Street and SR 125 and a Class I Collector between SR 125 and Bonita Road.
- Designation of the major access roadway leading to the northern part of the site as a Class III Collector.

With these modifications, there are only three roadway segments in the study area which will fail to meet the City's standard of level of service C traffic conditions.

The segment of East H Street between SR 125 and San Miguel Road is forecasted to operate at LOS D with 50,800 ADT. This forecasted volume projection with the proposed project is only 800 vehicles per day over the threshold LOS C capacity of 50,000 ADT for a six-lane prime. Thus, no change in the adopted roadway classification of the General Plan is necessary due to this minor exceedence. A similar situation exists along Bonita Road from Central to San Miguel and from San Miguel to Sweetwater. In each of these cases, a scaling back of the project to Adopted General Plan land uses would fail to

mitigate the exceedance of the standards. The exceedance is caused by the change in trip generation rates discussed in Chapter 4.

It is important to note that as other projects to the east of Rancho San Miguel are reviewed, the City of Chula Vista must examine potential impacts on this segment of East H Street east of SR 125. This is especially true if these other projects propose to exceed the trip generation assumptions of the General Plan and thus, add incremental volume increases to East H Street. The most critical project which may impact this segment is Salt Creek Ranch which relies exclusively on East H Street for access.

The following sections discuss traffic impacts associated with the development of the project site in the interim time frame. Topics discussed include the following:

- Interim Project Development Phasing
- County Roadway Facilities
- Light Rail
- Other Cumulative Developments
- Future State Route 125
- Toll Roadway Impact

FUTURE ISSUES

This section will identify the issues that must be discussed in detail during the development of Specific Area Plans (SPA). Many of these issues are too involved to be discussed presently at this stage of the development process, or impossible to analyze due to the lack of the information.

Interim Project Development Phasing

The recent Eastern Chula Vista Transportation Phasing Plan Update (Willdan Associates, January 1991) identified the need for roadway improvements in the SR 125 Corridor before additional development occurs. The City of Chula Vista is currently pursuing a consulting study to determine whether it would be advisable to build an interim roadway facility in the corridor prior to the completion of the SR 125 freeway.

The traffic impact of the proposed project will vary depending on the phasing of the development and the phasing of roadway improvements in the corridor. It is recommended that this issue be reevaluated at the SPA level of analysis when more information is available. The construction of the project should be contingent on either construction of some interim or freeway level roadway facility in the SR 125 corridor or provision of alternate routes of travel for project traffic.

County Roadway Facilities

The future impact of traffic generated by the project site at buildout on nearby roadways was documented in Table 5-4. Many of the impacted roadways are under the jurisdiction of San Diego County. The percentage contribution of project traffic to County roadways is as follows:

- Briarwood Rd., SR 54 to Sweetwater Rd.: 0.4%
- Sweetwater Rd., Briarwood Rd. to SR 54: 0.0%
- Bonita Rd., Central Ave. to Sweetwater Rd.: 0.0%
- San Miguel Rd., Bonita Rd. to SR 125: 2.3%

Light Rail

SANDAG recently completed a study of transit alternatives for the South Bay area (South Bay Rail Transit Extension Study, San Diego Association of Governments, March 1991). One of the alternatives evaluated in this study was an extension of the San Diego Trolley south from Lemon Grove to the international border along SR 125. Based on the evaluation, it was recommended that right-of-way be reserved along SR 125 for this potential trolley extension. In order to leave this option open, it is recommended that the project site design be modified, if necessary, to make room for the trolley extension.

The implementation of the trolley line would also change traffic patterns in the area. Overall traffic levels would tend to decrease as automobile travellers divert to the trolley, while traffic increases would be expected in the immediate vicinity of stations. At the SPA-level of traffic impact analysis, the impact of the trolley extension should be re-examined based on the most current information available at that time.

Other Cumulative Developments

The proposed project is one of many development projects which have been planned or approved in Eastern Chula Vista. In the vicinity of the project site, much of the traffic generated by proposed development would use East H Street for access to SR 125 or other regional roadways. East H Street should be a key area of emphasis in the SPA-level analysis.

If the project and San Miguel Road are built as planned, a positive impact would also be expected to occur on East H Street. The project site plan shows a relocation of the proposed San Miguel Road interchange south of the location shown on the adopted General Plan. This would make San Miguel Road a more attractive alternative to East H Street as

an access route to SR 125. Traffic generated to the east, particularly from the Salt Creek Ranch development would be expected to use San Miguel Road through the project site.

Future State Route 125 Alignment

Although the proposed project relies on SR 125 to carry the majority of traffic generated by the development, neither the alignment of SR 125 nor the location and configuration of the San Miguel Road interchange have been finalized. Caltrans is currently preparing the EIR for the SR 125 alignment alternatives, and it is difficult to assess the impact of the proposed project on the freeway and study area interchanges without detailed information which should be provided by the Caltrans EIR.

There are currently three alignments for SR 125 under study. The alignments known as the "Substation Alternative" and the "Proctor Valley Road East Alignment" run through the project site itself. The selection of either of these alignments would necessitate a revision to the current project site plans. The alignment known as the "Proctor Valley Road West Alignment" appears to be consistent with the land development plan shown on the current project site plan and the Adopted Chula Vista General Plan. Caltrans expects to complete adoption of an alignment along with EIR/EIS documents in 1992 or 1993 with opening of SR 125 expected in 1996.

Toll Roadway Impact

The SR 125 freeway was assumed to be a free roadway in the traffic analysis forecasts that were prepared as part of the Adopted General Plan. Studies are currently underway to determine whether SR 125 should be built as a toll roadway. If SR 125 is built as a tollway, traffic that was forecast to use this roadway would be expected to divert to other facilities. The extent of this diversion is unknown. Development of SR 125 as a toll facility would require suitable mitigation to deal with traffic diversion.

APPENDIX A

**REVIEW OF EASTERN TERRITORIES GROWTH FORECAST:
CHULA VISTA GENERAL PLAN CODING
VERSUS CURRENT DEVELOPMENT PLANNING**

**TRIP GENERATION REVIEW BY SANDAG
TRANSPORTATION ANALYSIS ZONE STRUCTURE**

Table 1

**RANCHO SAN MIGUEL TRAFFIC ANALYSIS
COMPARISON OF PLANNED DEVELOPMENT VERSUS
SANDAG TRIP GENERATION RATES**

Updated SANDAG (Scenario 4) Data Base with Proposed Rancho San Miguel Land Uses

DEVELOPMENT NAME	PHASE	DEVELOPMENT TRIPS	PLANS TAZs	SANDAG TRIPS	TRIP GENERATION COMPARISON BY
					DEVELOPMENT (SANDAG DEFICIT/SURPLUS)
BONITA MEADOWS	N/A	2790	491	4860	+2070
BONITA LONG CNYN	N/A	9045	493	6670	-2375
EASTLAKE TRAILS	N/A	26575	468	19964	-6611
EASTLAKE GREENS	N/A	30160	342,343,344	45605	+15445
SALT CREEK RANCH					
	1	13160			
	2	13880			
	3	2910			
TOTAL SALT CREEK RANCH		29950	348,349,83	22344	-7606
EASTLAKE 1	N/A	15853	480,517	18084	+2231
EASTLAKE 1 BUS CTR	N/A	65920	48,345,346,347, 348,351	51488	-14432
RANCHO DEL REY 1	N/A	53654	518,321,516,512, 320	50175	-3479
RANCHO DEL REY 2	N/A	5703	513	4400	-1303
RANCHO DEL REY 3	N/A	19543	322,511,50,439	25416	+5873
EASTLAKE III	N/A	43506	350,352,534,669	54884	+11378
*RANCHO SAN MIGUEL	N/A	29635	77,82,81,555,556, 557,558	29635	0
TOTAL TRIP SUMMARY		332,334		333,525	+1191

Note: * Reflects proposed land uses for SANDAG travel forecast modelling.

**PROPOSED LAND USES FOR SANDAG
TRAVEL FORECAST MODELLING**

PROJECT: RANCHO SAN MIGUEL

	DESCRIPTION	LAND USE CODE	UNITS
SANDAG TAZ: 82	VACANT LAND	910	559
SANDAG TAZ: 77	SINGLE RESID	110	476
	CONF. CTR	690	7
	NATURE CTR	767	6
	VACANT LAND	910	1110
SANDAG TAZ: 81	SINGLE RESID	110	103
	VACANT LAND	910	4
SANDAG TAZ: 555	SINGLE RESID	110	413
	VACANT LAND	910	7
SANDAG TAZ: 556	SINGLE RESID	110	134
	VACANT LAND	910	29
SANDAG TAZ: 557	SINGLE RESID	110	384
	REG SHOP CTR	524	17
	SCHOOL	23	11
	PARK	765	21
	VACANT LAND	910	97
SANDAG TAZ: 558	SINGLE RESID	110	144
	VACANT LAND	910	43

CUMULATIVE FOR SANDAG TAZS: 77,82,81,555,556,557,558

DEVELOPMENT LAND USE

DESCRIPTION	LAND USE CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNIT	TRIP RATE	TRIPS
SINGLE RESID	110	1654	10	16540	SCHOOL	11	40	440
PARKS	765	21	5	105	SINGLE RESID	1654	10	16540
REG SHOP CTR	524	17	700	11900	PARK	21	5	105
CONF. CTR	690	7	50	350	COMMERCIAL	17	700	11900
NATURE CTR	767	6	50	300	CONFERENCE CTR	7	50	350
SCHOOL	23	11	40	440	NATURE CENTER	6	50	300
VACANT LAND	910	1849	0	0	TOTAL			29,635
TOTAL				29,635				

PROJECT: RANCHO SAN MIGUEL

	DESCRIPTION	LAND USE CODE	UNITS
SANDAG TAZ: 77	VACANT LAND	910	559
SANDAG TAZ: 82	SINGLE RESID	110	725
	PARKS	765	2
	VACANT LAND	910	1110
SANDAG TAZ: 81	SINGLE RESID	110	138
	VACANT LAND	910	4
SANDAG TAZ: 555	SINGLE RESID	110	437
	VACANT LAND	910	7
SANDAG TAZ: 556	SINGLE RESID	110	139
	VACANT LAND	910	29
SANDAG TAZ: 557	SINGLE RESID	110	352
	REG SHOP CTR	520	14
	VACANT LAND	910	97
SANDAG TAZ: 558	SINGLE RESID	110	32
	SINGLE RESID	110	43
	VACANT LAND	910	43

CUMULATIVE FOR SANDAG TAZ'S: 77,82,81,555,556,557,558

DESCRIPTION	LAND USE CODE	UNITS	TRIP RATE	TRIPS
VACANT LAND	910	1849	0	0
SINGLE RESID	110	1866	10	18660
PARKS	765	2	5	10
REG SHOP CTR	520	14	500	7000
TOTAL				25,670

DEVELOPMENT LAND USE

DESCRIPTION	UNIT	TRIP RATE	TRIPS
SCHOOL	11	40	440
SINGLE RESID	1654	10	16540
PARK	21	5	105
COMMERCIAL	17	700	11900
CONFERENCE CTR	7	50	350
NATURE CENTER	6	50	300
TOTAL			29,635

PROJECT: RANCHO DEL REY - SPA II

SANDAG TAZ: 493					DEVELOPMENT LAND USE			
					TRIP			
DESCRIPTION	CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNIT/ACRES	RATE	TRIPS
SINGLE RESID	110	439	10	4390	SINGLE RESID	567	10	5670
PARKS	765	2	5	10	PARK	6.5	5	33
VACANT LAND	910	48	0	0	OPEN SPACE	158.3	0	0
TOTAL				4,400	TOTAL 5,703			

PROJECT: RANCHO DEL REY- SPA III

	DESCRIPTION	LAND USE	
		CODE	UNITS
SANDAG TAZ: 322			
	SINGLE RESID	110	75
	VACANT LAND	910	57
SANDAG TAZ: 511			
	SINGLE RESID	110	446
	MULTI RESID	130	107
	VACANT LAND	910	26
SANDAG TAZ: 50			
	SINGLE RESID	110	411
	MULTI RESID	130	214
	OTR SERVICES	690	8
	VACANT LAND	910	71
SANDAG TAZ: 439			
	SINGLE RESID	110	1088
	MULTI RESID	130	147
	OTR SERVICES	690	29
	PARKS	765	18
	VACANT LAND	910	85

CUMULATIVE FOR SANDAG TAZS: 322,511,50,439					DEVELOPMENT LAND USE			
DESCRIPTION	LAND USE CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNIT/ACRES	TRIP RATE	TRIPS
SINGLE RESID	110	2020	10	20200	SINGLE RESID	1731	10	17310
MULTI RESID	130	468	7	3276	MULTI RESID	79	7	553
OTR SERVICES	690	37	50	1850	EMPLOYMEN	5.2	300	1560
VACANT LAND	910	239	0	0	PARKS	23.9	5	120
PARKS	765	18	5	90	OPEN SPACE	292.2	0	0
	TOTAL			25,416		TOTAL		19,543

PROJECT: EASTLAKE -SPA I

	LAND USE		
	DESCRIPTION	CODE	UNITS
SANDAG TAZ: 480			
	SINGLE RESID	110	319
	SINGLE RESID	110	215
	MULTI RESID	210	51
	OTR SERVICES	690	10
	VACANT LAND	910	114

SANDAG TAZ: 517			
	SINGLE RESID	110	120
	MULTI RESID	130	770
	MULTI RESID	130	262
	MULTI RESID	130	359
	OTR SERVICES	690	19
	VACANT LAND	910	102

CUMULATIVE FOR SANDAG TAZS: 480,517

					DEVELOPMENT LAND USE			
DESCRIPTION	LAND USE CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNIT/ACRE	TRIP RATE	TRIPS
SINGLE RESID	110	654	10	6540	SINGLE RESID	454	10	4540
MULTI RESID	130	1442	7	1009	MULTI RESID	1525	7	1067
OTR SERVICES	690	29	50	1450	SCHOOL	10.0	40	40
VACANT LAND	910	216	0	0	OPEN SPACE	148.4	0	0
	TOTAL TRIPS			18,084	PARK	23.8	10	238
					TOTAL TRIPS			15,853

PROJECT: EASTLAKE I-BUSINESS CENTER I

	DESCRIPTION	CODE	UNITS
SANDAG TAZ: 345	REG SHOP CTR	520	28
	VACANG LAND	910	8
SANDAG TAZ: 346	LHT INDUSTRY	210	15
	LHT INDUSTRY	210	25
	REG SHOP CTR	520	6
	OFFICE	600	9
	VACANT LAND	910	19
SANDAG TAZ: 347	SINGLE RESID	110	135
	MULTI RESID	130	107
	VACANT LAND	910	9
SANDAG TAZ: 348	SINGLE RESID	110	24
	MULTI RESID	130	242
	LHT INDUSTRY	210	52
	PARKS	765	3
	VACANT LAND	910	17
SANDAG TAZ: 351	MULTI RESID	130	264
	MULTI RESID	130	69
	LHT INDUSTRY	210	70
	REG SHOP CTR	520	6
	VACANT LAND	910	26
SANDAG TAZ: 48	SINGLE RESID	110	21
	MULTI RESID	130	157
	VACANT LAND	910	46

CUMULATIVE FOR SANDAG TAZS: 48,345,346,347,348,351					DEVELOPMENT LAND USE			
LAND USE		TRIP					TRIP	
DESCRIPTION	CODE	UNITS	RATE	TRIPS	DESCRIPTION	UNIT/ACRES	RATE	TRIPS
SINGLE RESID	110	180	10	1800	MULTI RESID	1035	7	7245
MULTI RESID	130	839	7	5873	EMPLOYMENT	191.5	300	57450
REG SHOP CTR	520	40	500	20000	OPEN SPACE/			
ORRICE	600	9	300	2700	PUBLIC	113.4	10	1134
LHT INDUSTRY	210	162	130	21060	PARK	9.1	10	91
PARKS	765	3	5	15				
VACANT LAND	910	125	0	0				
TOTAL TRIPS				51,448				65,920

PROJECT: RANCHO DEL REY-SPA I

	DESCRIPTION	LAND USE	
		CODE	UNITS
SANDAG TAZ: 518			
	MULTI RESID	130	742
	OTR SERVICES	690	6
	PARKS	765	16
SANDAG TAZ: 321			
	SINGLE RESID	110	155
	MULTI RESID	130	603
	REG SHOP CTR	520	20
	OTR SERVICES	690	28
	PARKS	765	18
	VACANT LAND	910	153
SANDAG TAZ: 320			
	SINGLE RESID	110	254
	MULTI RESID	130	502
	LHT INDUSTRY	210	13
	OTR SERVICES	690	8
	PARKS	765	12
	VACANT LAND	910	173
SANDAG TAZ: 516			
	SINGLE RESID	110	16
	LHT INDUSTRY	210	70
	PARKS	765	4
	VACANT LAND	910	40
SANDAG TAZ: 512			
	SINGLE RESID	110	760
	MULTI RESID	130	308
	PARKS	765	20
	VACANT LAND	910	150

CUMULATIVE FOR SANDAG TAZS: 518,321,320,516,512					DEVELOPMENT LAND USE			
LAND USE		TRIP					TRIP	
DESCRIPTION	CODE	UNITS	RATE	TRIPS	DESCRIPTION	UNIT/ACRES	RATE	TRIPS
SINGLE RESID	110	1185	10	11850	SINGLE RESID	1246	10	12460
MULTI RESID	130	2155	7	15085	MULTI RESID	975	7	6825
REG SHOP CTR	520	20	500	10000	OFFICE	111.6	300	33480
OTR SERVICES	690	42	50	2100	SCHOOL	10.2	60	612
PARKS	765	70	5	350	PARK	55.4	5	277
LHT INDUSTRY	210	83	130	10790	OPEN SPACE	241.8	0	0
VACANT LAND	910	0	0	0				
TOTAL TRIPS				50,175	TOTAL TRIPS			53,654

PROJECT: EASTLAKE III

SANDAG TAZ: 350	LAND USE		
	DESCRIPTION	CODE	UNITS
	SINGLE RESID	110	405
	LHT INDUSTRY	210	160
	VACANT LAND	910	59

SANDAG TAZ: 352			
	SINGLE RESID	110	905
	PARKS	765	18
	VACANT LAND	910	177
	INLAND WATER	932	11

SANDAG TAZ: 534			
	SINGLE RESID	110	492
	MULTI RESID	130	242
	OTHER RETAIL	530	15

SANDAG TAZ: 669			
	RETAIL	12	15
	OTHER RETAIL	530	16
	OLYMPIC TC	721	150
	PARKS	766	43

CUMULATIVE FOR SANDAG TAZ'S: 350,352,534,669

LAND USE					DEVELOPMENT LAND USE			
					DESCRIPTION	UNIT/ACRES	TRIP RATE	TRIPS
DESCRIPTION	CODE	UNITS	TRIP RATE	TRIPS	SINGLE RESID	1001	10	10010
SINGLE RESID	110	1802	10	18020	MULTI RESID	834	7	5838
MULTI RESID	130	242	7	1694	RETAIL	3	400	1200
RETAIL	12	15	400	6000	VISITOR	20.3	58	11 86
OTHER RETAIL	530	31	350	10850	PROF/ADMIN	4.7	300	1410
LIGHT INDUSTRY	210	160	130	2800	RESEARCH/			
OLYMPIC TC	721	150	100	15000	MANUFACT	102.6	80	8208
PARKS	765/66	43/18	10/5	430/90	PUBLIC/QUAS			
INLAND WATER	932	11	0	0	PUBLIC	180	83	15000
VACANT LAND	910	236	0	0	PARKS	65.4	10	654
					OPEN SPACE			
					& OTHER	191.2	0	0
					TOTAL			43,506
		TOTAL		54,884				

PROJECT: EASTLAKE TRAILS SPA

SANDAG TAZ: 468					DEVELOPMENT LAND USE			
DESCRIPTION	CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNITS/ACRES	TRIP RATE	TRIPS
SINGLE RESID	110	1676	10	16760	SINGLE RESID	793	10	7930
MULTI RESID	130	162	7	1134	MULTI RESID	467	7	3269
REG SHOP CTR	520	4	500	2000	RETAIL	15	650	9750
PARKS	766	7	10	70	OPEN SPACE	2.5	0	0
VACANT LAND	910	123	0	0	PUBLIC/QUASI			
					PUBLIC	16.5	600	4950
					PARKS & REC.	67.6	10	675
		TOTAL TRIPS		19,964	TOTAL TRIPS			26,575

PROJECT: EASTLAKE GREENS

	DESCRIPTION	CODE	UNITS
SANDAG TAZ: 342			
	REG SHOP CTR	520	10
	OTHR SERVICES	690	46
	PARKS	765	14
	VACANT LAND	910	41
SANDAG TAZ: 343			
	SINGLE RESID	110	1446
	VACANT LAND	910	10
SANDAG TAZ: 344			
	SINGLE RESID	110	2073
	PARKS	765	3
	VACANT LAND	910	13

CUMULATIVE FOR SANDAG TAZ'S: 342,343,344

DEVELOPMENT LAND USE

DESCRIPTION	CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNIT/ACRES	TRIP RATE	TRIPS
SINGLE RESID	110	3522	10	35220	SINGLE RESID	1133	10	11330
REG SHOP CTR	520	16	500	8000	MULTI RESID	1641	7	11487
OTR SERVICES	690	46	50	2300	RETAIL	19.6	400	7840
PARKS	765	17	5	85	OPEN SPACE	20	0	0
VACANT LAND	910	64	0	0	PUBLIC/			1410
	TOTAL TRIPS			45,605	QUASI PUBLIC	76.3	83	6358
					PARKS	197.0	5	985
					TOTAL TRIPS			30,160

PROJECT: SALT CREEK RANCH

DESCRIPTION CODE UNITS

SANDAG TAZ: 348

SINGLE RESID	110	24
MULTI RESID	130	242
LHT INDUSTRY	210	52
PARKS	765	3
VACANT LAND	910	17

SANDAG TAZ: 349

SINGLE RESID	110	421
VACANT LAND	910	40

SANDAG TAZ: 83

SINGLE RESID	110	941
VACANT LAND	910	272

CUMULATIVE FOR SANDAG TAZS: 348,349,83

DESCRIPTION	CODE	TRIP		
		UNITS	RATE	TRIPS
SINGLE RESID	110	1386	10	13860
MULTI RESID	130	242	7	1694
LHT INDUSTRY	210	52	130	6760
PARKS	765	3	10	30
VACANT	910	329	0	0
TOTAL TRIPS				22,344

DEVELOPMENT LAND USE

DESCRIPTION	UNIT/ACRES	TRIP	
		RATE	TRIPS
SINGLE RESID	2292	10	229950
MULTI RESID	525	8	4200
PARKS	27	50	1350
OPEN SPACE	360.8	0	0
CHURCH	7.0	40	280
SCHOOL	20	60	1200
TOTAL TRIPS			29,950

PROJECT: BONITA LONG CANYON

SANDAG TAZ: 493

DEVELOPMENT LAND USE

DESCRIPTION	CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNIT	RATE	TRIPS
SINGLE RESID	110	80	10	800	SINGLE RESID	862	10	8620
SINGLE RESID	110	544	10	5440	OPEN SPACE	277	0	0
OTR SERVICES	690	8	50	400	CHURCH	9.0	40	360
PARKS	765	6	5	30	COMM. REC.	1.3	8	10
VACANT LAND	910	456	0	0	PARK	11.0	5	55
		TOTAL		6,670			TOTAL	9,045

PROJECT: BONITA MEADOWS

SANDAG TAZ: 491					DEVELOPMENT LAND USE			
DESCRIPTION	CODE	UNITS	TRIP RATE	TRIPS	DESCRIPTION	UNITS	TRIP RATE	TRIPS
SINGLE RESID	110	486	10	4860	SINGLE RESID	279	10	2790
VACANT LAND	910	158	0	0	TOTAL			2,790
		TOTAL		4,860				

APPENDIX G

**PRELIMINARY WATER CONCEPT PLAN FOR
RANCHO SAN MIGUEL**

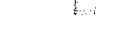
**PRELIMINARY WATER CONCEPT PLAN FOR
RANCHO SAN MIGUEL**

APRIL 1990

Nolte and Associates

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1.0 INTRODUCTION

Rancho San Miguel is a proposed development of approximately 1800 residential units. The development also includes commercial, school, resort, and park areas. Much of the land will be designated open space. It is located south of Sweetwater Reservoir as shown in Figure 1.

The purpose of this summary report is to define a reasonable concept plan for the supply and distribution of water to the proposed development. The proposed development is shown in Figure 2.

Water service to Rancho San Miguel will be provided by Sweetwater Authority (SWA). At the present time the Rancho San Miguel area is within the Otay Water District (OWD). However, it is expected that Rancho San Miguel will be annexed into SWA. A small area in the most southern portion of the development, adjacent to Salt Creek I, will remain in OWD. This area is not part of this Development Plan.

Two water sources will be provided to the development: a pumped connection to a SWA transmission main, and a direct connection to the County Water Authority Pipeline #43. The basic water facilities that will be needed to serve Rancho San Miguel are shown in Figure 3.

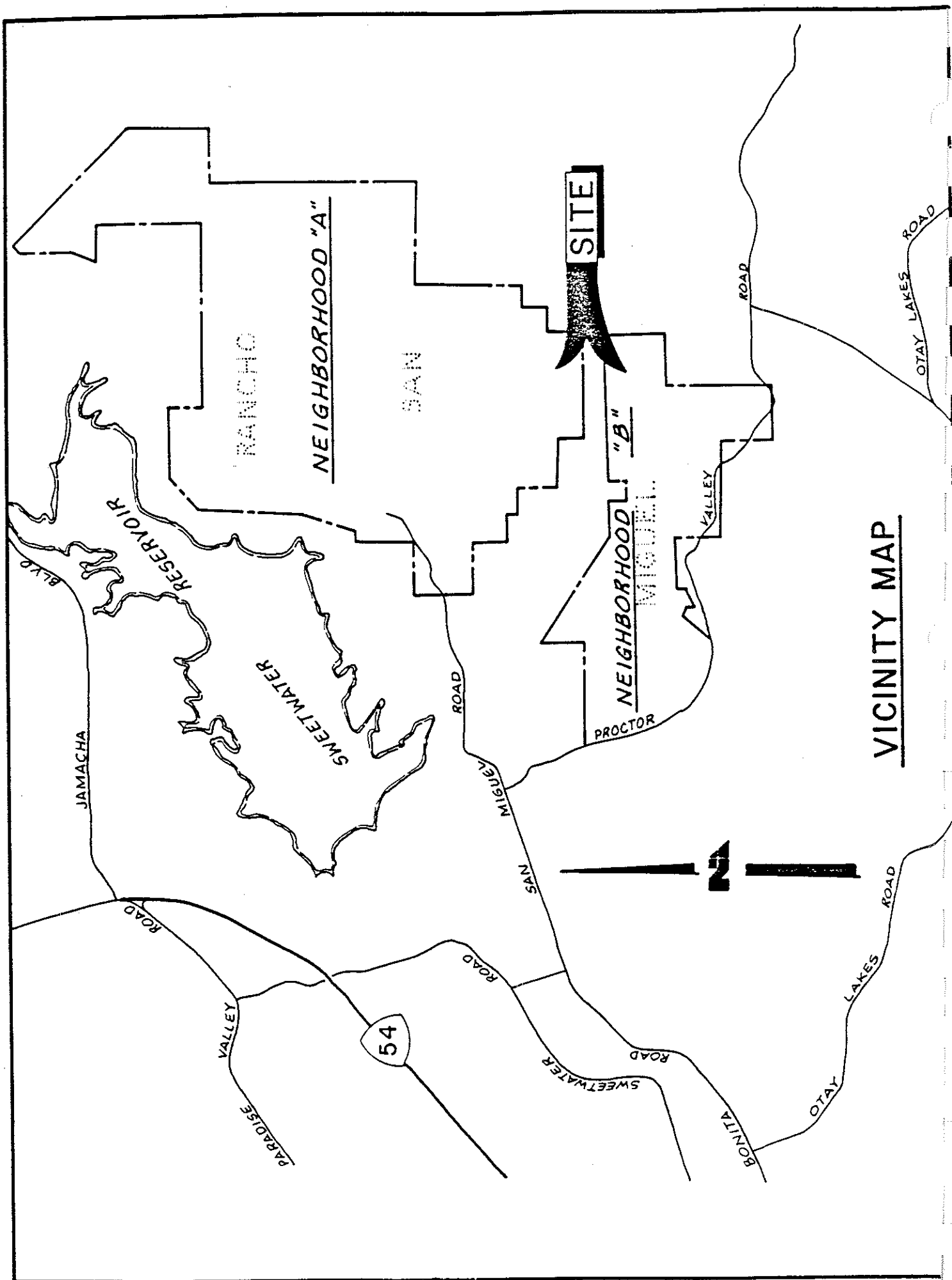
The on-site and off-site water facilities that will be needed to provide a reliable water system within the SWA system are described below. The use of reclaimed water will also be discussed.

2.0 ON-SITE WATER FACILITIES CONCEPT PLAN

2.1 Water Demands

To estimate the water demand, the following assumptions were made:

1. 3.5 persons live in each dwelling unit.
2. Each person uses 150 gallons per day (GPD).
3. An equivalent dwelling unit (EDU) = 525 GPD.
4. Elementary school demand is equal to 8.9 EDU/AC,
(Total area = 9 AC).
5. Commercial property demand is equal to 12.5 EDU/AC
(Total area = 14 AC).



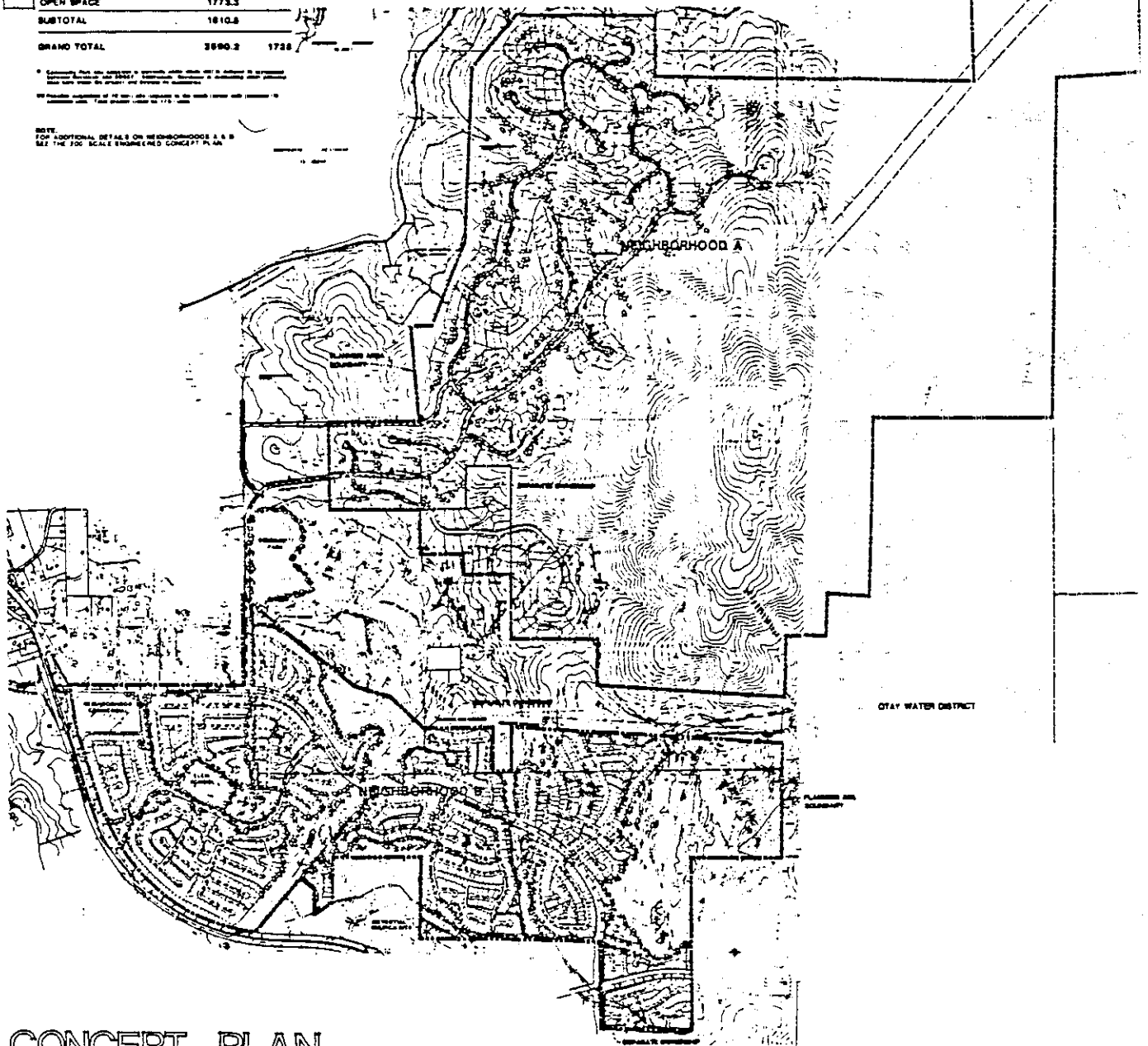
FIGURE

STATISTICAL SUMMARY

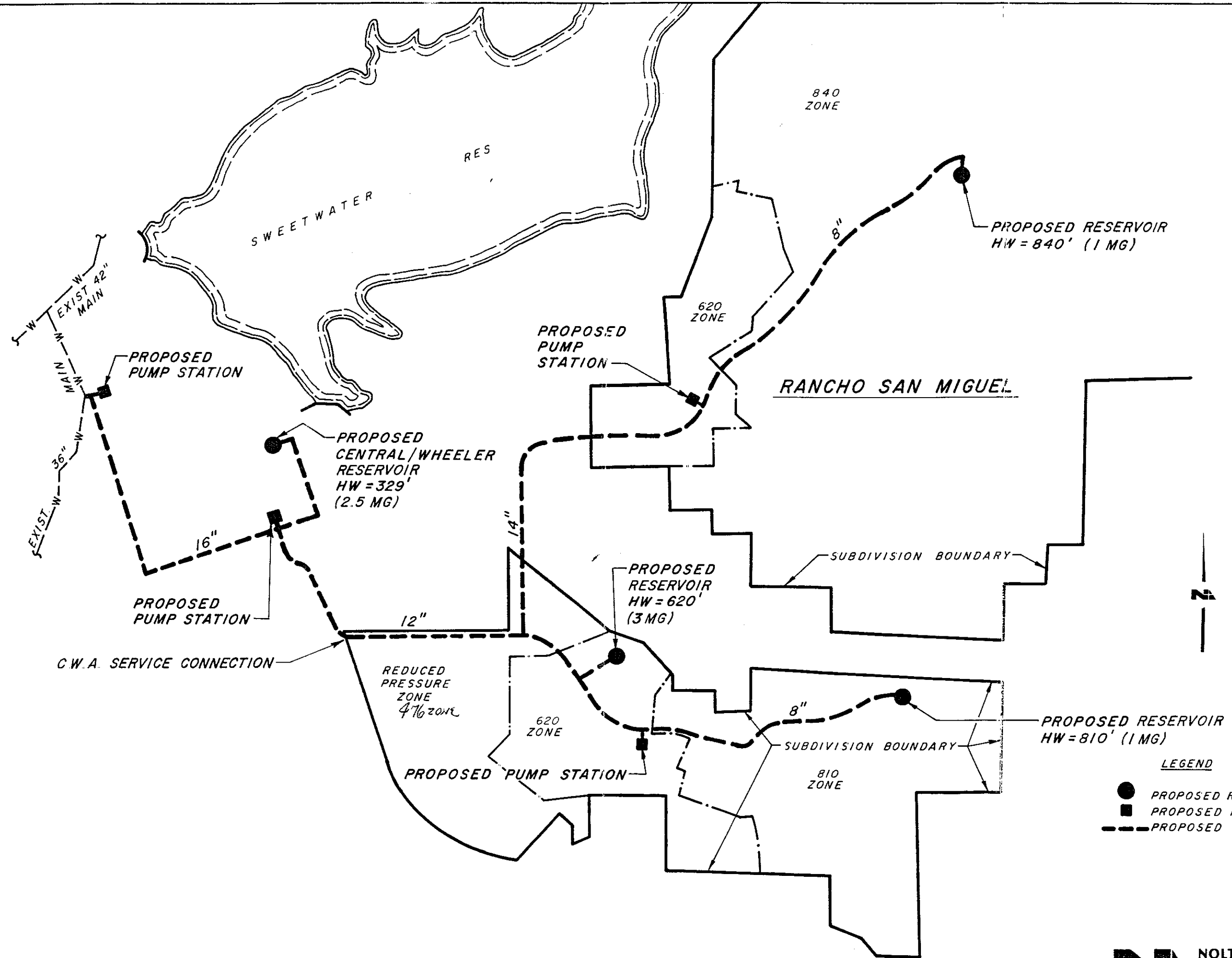
LAND USE	ACRES	UNITS
RESIDENTIAL LOW		
One Acre Average	367.1	567
8000-10,000 s/f lots	174.0	806
7000-8000 s/f lots	210.1	746
Elementary School	9.0	24
Neighborhood Park	7.0	
SUBTOTAL	787.2	1738
COMMERCIAL	14.0	
COMMUNITY PARK	1.5 (115 Acres Total)	
CONFERENCE CENTER	8.7	
SUBTOTAL	22.2	
ROADS	97.8	
OPEN SPACE	1773.3	
SUBTOTAL	1810.8	
GRAND TOTAL	2690.2	1738

* Community Park, 115 Acres, is located on the eastern edge of the site, adjacent to the existing 115-acre community park. The 115-acre community park is located on the eastern edge of the site, adjacent to the existing 115-acre community park.

NOTE: FOR ADDITIONAL DETAILS ON NEIGHBORHOODS A & B SEE THE 500 SCALE ENGINEERED CONCEPT PLAN.



CONCEPT PLAN RANCHO SAN MIGUEL SAN MIGUEL PARTNERS



LEGEND

- PROPOSED RESERVOIR
- PROPOSED PUMP STATION
- PROPOSED PIPELINE

6. Parks irrigation at 1"/week or 3,880 GPD/AC.
7. Interpretive Center demand estimated at 1000 GPD.
8. Bed & Breakfast/Conference Center demand equal to 4,000 GPD/AC.
9. Peaking factors for maximum-day and peak-hour were selected according to the City of San Diego Water-Sewer Planning and Design Guide.

The estimated water demands are below in Table 1.

TABLE 1
Estimated Water Demands

Zone	EDU	Average Day		Peaking Factor	Maximum Day	
840	455	238,875	GPD	2.8	668,900	GPD
620	1,429	750,255	GPD	2.6	1,950,700	GPD
810	652	342,300	GPD	2.7	924,200	GPD
TOTAL		1,331,430	GPD	2.5	3,329,000	GPD

A new design criteria manual will soon be available from SWA. At that time water demands will be recalculated according to SWA criteria.

The City of Chula Vista uses the 1988 Uniform Fire Code to determine fire flows. The Fire Code requires a minimum fire protection flow of 1000 gpm for 2 hours for single family residential. The flow requirement for other types of development, such as schools and commercial, is based on square footage and type of construction. Fire flow to the commercial area and elementary school could range from 3,000 to 5,000 gpm for four hours. Fire flow for the Bed and Breakfast/Conference Center will not exceed 2,000 gpm. The fire marshal has indicated that all structures will need to be sprinklered. No fire flow reduction for sprinklers will be given because of inadequate response times to fire calls by the fire department.

2.2 Pressure Zones

Rancho San Miguel will be broken into four pressure zones as shown in Table 2.

TABLE 2
Pressure Zones

Zone	Service Elevations	
	Low	High
476	200	380
620	350	525
810	500	715
840	530	745

The zone designations are the maximum static water elevations in the reservoir(s) serving the zone. The 810 zone will serve the high easterly portion of Neighborhood B. The 840 zone will serve the high easterly portion of Neighborhood A. The 620 zone is the largest and serves the majority of the area. The 620 zone was established such that water could be fed by gravity from the CWA Aqueduct. The 476 zone is around the commercial area to the east and will be served through several pressure-reducing stations from the 620 zone. The pressure zones are shown on Figure 3.

2.3 Pump Stations

Two pump stations will be required on-site; one in Neighborhood A to pump from the 620 zone to the 840 zone, and one in Neighborhood B to pump from the 620 zone to the 810 zone.

Pump stations will be sized to pump maximum day demands. Tentative sizes for both on-site and off-site pump stations are shown in Table 3, below.

TABLE 3
Pump Station Design Flows and Heads

Service Zone	Design Flow	Design Head
329	4.0 MGD	180 ft
620	3.6 MGD	320 ft
810	0.9 MGD	250 ft
840	0.7 MGD	290 ft

2.4 Reservoirs

Three on-site reservoirs will be required; one each for the three higher zones. The reservoirs will be sited so that the maximum water levels will equal the zone hydraulic grade.

On-site reservoirs will be designed to hold the maximum daily flow plus fire flow storage. Fire flow storage for the 810 zone will be based on 1500 gpm for 2 hour duration. Fire flow storage for the 840 zone with the Conference Center will be based on 2,000 gpm for 3 hour duration. The 620 zone reservoir will serve an elementary school and a commercial area in addition to single-family residential. Fire flow storage for the 620 zone will be based on 3500 gpm for 4 hour duration. The 3500 gpm allows building sizes of up to 18,000 sf to 112,700 sf depending on the type of construction.

The off-site reservoir volume will be equal to the needed regulating volume plus the storage that SWA needs for the surrounding 320 pressure zone.

Estimated reservoir sizes are given in Table 4, below.

TABLE 4
Reservoir Sizes

Service Zone	Estimated Volume (gallons)
329	2,500,000
620	3,000,000
810	1,100,000
840	1,000,000

2.5 Reclaimed Water System

Reclaimed water pipelines will not be installed in Neighborhood A because it is a drainage basin to Sweetwater Reservoir. Sweetwater Reservoir provides drinking water to SWA customers. SWA will not approve the use of reclaimed sewage water within the Sweetwater Reservoir watershed.

Neighborhood B is not within the Sweetwater Reservoir watershed. Reclaimed water piping will be installed in the major streets of Neighborhood B. Reclaimed water could be used for irrigation of parks, school playgrounds, and along roadsides. It is likely that a connection would be made to the reclaimed water system in the Salt Creek Development. In this way a more reliable distribution system will be created.

It is not known which agency will distribute reclaimed water. Reclaimed water may be available from Otay Water District. There is a 10" pipeline which runs north of Neighborhood B from their reclamation plant to the east.

3.0 REQUIRED OFF-SITE FACILITIES

SWA will required two separate sources of water to Rancho San Miguel. This

will provide a backup source in case either one is out of service. The primary source of water will be from a 36-inch SWA transmission main near Sweetwater River. The second source of water will be from the CWA Second Aqueduct-Pipeline #4.

Two new major stations and a new reservoir will be required to deliver water from the 36-inch SWA transmission main. The first pump station will be near the 36-inch main. It will lift water to the 329 pressure zone. The off-site reservoir will serve the 329 zone and its changing elevation will control the functioning of the first pump station. The reservoir will be constructed at an existing reservoir site near the north end of Dairy Road. The second pump station will be near the intersection of San Miguel Road and Proctor Valley Road. It will lift water from the 329 zone to the 620 zone and into the Rancho San Miguel development. The sizes of the pump stations and reservoir are shown in Tables 3 and 4 above.

A connection from the CWA Aqueduct will be made somewhere along Proctor Valley Road, near the west side of the development. A 10 or 12-inch connection will be made, and a complete metering station will be constructed according to CWA requirements.

The facilities discussed above are shown in Figure 3.

APPENDIX H

**SERVICE AVAILABILITY LETTER FROM
SWEETWATER AUTHORITY**

SWEETWATER AUTHORITY

505 GARRETT AVENUE
POST OFFICE BOX 2328
CHULA VISTA, CALIFORNIA 92012-2328
(619) 420-1413
FAX (619) 425-7469



February 22, 1991

Mr. Bruce Fink
ERCE Co.
5510 Morehouse Drive
San Diego, CA 92121

GOVERNING BOARD

WAYNE W. SMITH, CHAIRMAN
MARGARET A. WELSH, VICE CHAIRMAN
SUE JARRETT
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EDWIN J. STEELE
GEORGE H. WATERS
CARY F. WRIGHT
WANDA AVERY
TREASURER
JOAN S. FOWLER
CONTROLLER SECRETARY

Subject: WATER AVAILABILITY - RANCHO SAN MIGUEL

Dear Mr. Fink:

The subject project is not within the Sweetwater Authority service area. However, the Sweetwater Authority and the developer, San Miguel Partners, have entered into an Agreement for Annexation and Service. A copy of this Agreement is attached.

In general, the Agreement requires the completion of the annexation to the South Bay Irrigation District and detachment from the Otay Water District, and payment of an annexation fee. It is anticipated that three onsite water storage tanks and pump stations, onsite and offsite underground water pipelines, one offsite pump station and one control building for a connection to the San Diego County Water Authority will be required to provide water service.


The Agreement further states that this development may rely on water service except under water supply conditions affecting the region which could prohibit the installation of new services to this development.

Finally, service is also subject to the completion of a urban runoff protection facility for the protection of the Sweetwater Reservoir. The Sweetwater Authority and San Miguel Partners are working on the design of this facility, including the processing of an EIR.

If you have any questions, please contact Mr. Jim Smyth or myself at 420-1413.

Very truly yours,

SWEETWATER AUTHORITY


Richard A. Reynolds
Chief Engineer

RAR:JLS:ln

n/letters/rsmiguel

RANCHO SAN MIGUEL ANNEXATION AND SERVICE AGREEMENT

This Rancho San Miguel Annexation and Service Agreement ("Agreement") is made this 26th day of November, 1990, by and between the Sweetwater Authority (hereinafter "Authority") and San Miguel Partners (hereinafter "San Miguel").

RECITALS

WHEREAS, Authority is a public entity duly organized and existing as a Joint Powers Authority under and pursuant to Title 1, Division 7, Chapter 5, Article 1 (Sections 6500 et seq.) of the Government Code of the State of California; and

WHEREAS, the Authority is formed by an agreement between the South Bay Irrigation District and the City of National City; and

WHEREAS, San Miguel Partners is a general partnership under the laws of the State of California and is the developer of a project known as "Rancho San Miguel"; and

WHEREAS, San Miguel desires to obtain water service for Rancho San Miguel, which contains approximately 2,600-acres; and

WHEREAS, Authority has determined that it is willing and able to provide water service to Rancho San Miguel under certain conditions, to be identified in this Agreement; and

WHEREAS, in order for the Authority to provide water service to Rancho San Miguel, it is necessary that the property be annexed to the South Bay Irrigation District and detached from

the Otay Water District; and

WHEREAS, before entering into a more expanded and detailed form of agreement, the Authority and San Miguel seek to memorialize the current agreement between the parties in this Agreement.

Now, therefore, for good and valuable consideration, the receipt of which is hereby acknowledged it is agreed as follows:

1. Annexation and Detachment

Rancho San Miguel is currently located within the boundaries of Otay Water District and the San Diego County Water Authority and outside of the boundaries of the South Bay Irrigation District and the City of Chula Vista. If Rancho San Miguel is to receive water service from the Authority, San Miguel must annex Rancho San Miguel to the South Bay Irrigation District and detach it from the Otay Water District (such actions hereinafter referred to as the "Annexation"). It is understood by both parties that to accomplish the Annexation San Miguel must obtain approvals from the San Diego Local Agency Formation Commission ("LAFCO"), the City of Chula Vista, the South Bay Irrigation District and the Otay Water District. Therefore, if San Miguel desires the Annexation and sends written notice thereof to Authority, Authority shall support and assist San Miguel in all phases of the Annexation, including, but not limited to, San Miguel's application for detachment from Otay Water District, San Miguel's application for annexation to South Bay Irrigation District and the City of Chula Vista, and all proceedings before

or related to LAFCO. Such support and assistance from Authority shall include recommending the approval of the Annexation to any and all governmental entities and bodies including but not limited to the South Bay Irrigation District and City of Chula Vista, and providing information as reasonably requested by San Miguel related to the Annexation. The cost of preparing such application (which cost shall not include overhead or similar intra-organization costs other than those costs incurred at the specific request of San Miguel) and any fees for processing the Annexation will be the responsibility of San Miguel.

1.1 The area to be annexed to South Bay Irrigation District to obtain water service from Authority is shown in the attached Exhibit "A," and includes the estimated 2,600 acres of Rancho San Miguel and the approximately 333 acres of Otay Water District Improvement District No. 19 ("District No. 19"), which District No. 19 is adjacent to and lying out of Rancho San Miguel. If San Miguel makes the election to request the Annexation, as part of such Annexation and in full satisfaction of any and all fees which Authority may impose on Rancho San Miguel or San Miguel in connection with the Annexation (other than those costs referred to in Paragraph 1 above), San Miguel shall pay to Authority an annexation fee of \$5,495,688 ("Total Fee"). The Total Fee shall be payable in installments concurrently with each development phase of Rancho San Miguel as shown on the attached Exhibit "B," as follows:

(A) \$1,000,000, payable to a neutral escrow account

ten (10) days prior to the final annexation hearing before LAFCO. This \$1,000,000 initial payment shall be released to Authority upon completion of all proceedings related to the Annexation and upon written notice from San Miguel that it is satisfied with the terms and conditions of the Annexation. In the event the Annexation does not contain terms and conditions which are satisfactory to San Miguel, it shall cancel its Annexation request and receive back the full \$1,000,000 payment held in the neutral escrow account.

- (B) \$500,000, payable within ten (10) days after issuance of a grading permit for Phase 1.
- (C) \$1,103,680, payable within ten (10) days after issuance of a grading permit for Phase 2.
- (D) \$1,103,680, plus interest accruing at 7.21% simple interest from the date of issuance of a grading permit for Phase 2 in (C) above, until the date of payment, payable within ten (10) days after issuance of a grading permit for Phase 3.
- (E) \$1,103,680, plus interest accruing at 7.21% simple interest from the date of issuance of a grading permit for Phase 2 in (C) above, until the date of payment, payable within ten (10) days from issuance of a grading permit for Phase 3a.

(F) \$684,684, payable within ten (10) days after issuance of a grading permit for Phase 3a, without interest.

1.2 The Total Fee is based upon the area currently proposed to be included within Rancho San Miguel, computed at \$2,056.00 per acre for the estimated 2,600 acres of Rancho San Miguel (less a 10% credit for open space), plus \$2,056.00 per acre for the 333 acres of District No. 19. In the event that the area actually annexed is reduced from 2,600 acres in Rancho San Miguel or from 333 acres in District No. 19, then the Total Fee will not be less than \$5,000,000, and the payments described in (C), (D) and (E) above will be adjusted to reflect the actual number of acres annexed using the foregoing formula.

1.3 In the event that the Annexation is completed and San Miguel is paying the Total Fee as set forth in Paragraph 1.1 above, the calculation of the interest on the various components and the date of payment for the various components shall be tolled for any Unavoidable Delay (as described herein).

"Unavoidable delay" is the action or inaction beyond the reasonable control of San Miguel which causes or results in the delay in the planning, development or construction of Rancho San Miguel, which is not the result of lenders, agents or other parties involved in the development, or market or economic factors.

"Unavoidable delay" shall specifically mean: (1) the time during which a phase of Rancho San Miguel is subject to a Stage 3

or Stage 4 alert under the Authority's Water Conservation Program; or (2) the time during which San Miguel is unable to obtain permits or approvals for a particular phase of its project from governmental entities such as, but not limited to, the City of Chula Vista as the exclusive result of actions or policies by said entities which prohibit San Miguel from processing its applications necessary to obtain said permits or would result in the denial of an application; or (3) acts of God, war or insurrection which prohibit San Miguel from processing permits required to obtain necessary governmental approvals. In order to receive the benefits from an "Unavoidable Delay" San Miguel shall notify the Authority in writing of such "Unavoidable Delay" within 30 days of the event which it considers to constitute such an Unavoidable Delay.

For the amount of time equal to the time of an Unavoidable Delay, the interest described in Paragraphs 1.1(D) and Paragraph 1.1(E) shall not accrue and the due date for any component related to issuance of a grading permit shall be extended day for day after the issuance of such grading permit.

1.4 Existing water services within District No. 19 will be transferred to Authority for service upon completion of the Annexation. Authority will establish a "connection fee" to be collected from any applicant for new water service to a parcel within District No. 19 not receiving service at the time that Annexation is completed. Said "connection fee" will be established in an amount equal to the parcel's prorata share of

the \$684,648 annexation fee assigned to the area of District No. 19 (based on acreage formula to be reasonably agreed upon by the parties hereto), and, when collected, will be remitted to San Miguel. Said fees collected after fifteen (15) years from the date of payment described in Paragraph 1.1(F) above, shall be retained by Authority instead of being paid to San Miguel. The amount of the "connection fee" collected and remitted to San Miguel will be adjusted to reflect interest at nine percent per annum (compounded annually), from the date of payment pursuant to Paragraph 1.1(F) to the date that the connection fee payment is issued to San Miguel.

2. Water Service.

2.1 Based on preliminary development plans provided by San Miguel and an initial engineering review of those plans, water service for the Annexation will be accomplished by the construction of an off-site transmission pipeline from the Authority's 36-inch water main east of Quarry Road, an off-site pump station and storage tank of approximately 0.5 million gallon capacity and an off-site connection to the San Diego Aqueduct at a location just west of Rancho San Miguel. An on-site distribution system including pump stations, storage tanks, pipelines and appurtenances will also be required. The cost of construction of the above off-site and on-site facilities, estimated to be in excess of \$9,000,000 in 1989 dollars, will be the obligation of San Miguel and will be provided in accordance with the provisions of Authority's standard "Agreement to Improve

Development - Water Facilities," a blank copy of which is attached as "Exhibit C."

2.2 In the event the Annexation is completed, Authority will provide water service to Rancho San Miguel in accordance with its Rates and Rules then in effect, with the exception of a per dwelling unit connection fee charged and collected by the Authority for providing water service. The Authority does not now charge such a connection fee and will not charge Rancho San Miguel a connection fee regardless of the provisions contained in the Rates and Rules then in effect. The Annexation fee provided for herein above has been calculated to account for any potential connection fees which would be charged to other potential Authority customers.

San Miguel acknowledges that Authority has a policy requiring developers to either pay a storage assessment fee or provide adequate on-site water storage for their developments. San Miguel acknowledges that it has the obligation to provide sufficient on-site storage to accommodate the development.

The parties hereto acknowledge that Authority will be able to collect a meter installation fee which is the actual average cost to it for labor, materials and equipment usage for providing water service. Said meter installation fee is currently set at \$110.00 per 1" meter (provided the lateral service line is developer-installed) and said fee is adjusted periodically.

Notwithstanding the foregoing, the Authority shall continue to collect all fees imposed by the San Diego County Water

Authority and will collect fees imposed by any other governmental agency which requires collection by the Authority.

San Miguel may rely on the availability of such water service (except under such water supply conditions affecting the region which could prohibit the installation of new services, such as a Stage 3 or Stage 4 water alert under the Authority's Water Conservation Program). Until the component of the Total Fee applicable to a particular development phase of Ranch San Miguel (as described in Paragraph 1.1 above) is received by the Authority, Authority will have no obligation to provide water service to such development phase to which such payment is tied.

3. Miscellaneous.

3.1 San Miguel acknowledges that Authority has a policy requiring developers to either pay a runoff protection mitigation fee to the Authority or to mitigate the effects of urban runoff from their developments on the Sweetwater Reservoir. The determination to permit the developer to pay the runoff protection fee or construct separate mitigation is made by the Authority. San Miguel is cooperating with Authority, outside the provisions of this Agreement to provide facilities to protect Sweetwater Reservoir from the effects of urban runoff originating within Rancho San Miguel.

It may be preferable, for financial or engineering reasons, to combine facilities necessary to protect the Sweetwater Reservoir from the effects of urban runoff originating within Rancho San Miguel with the Authority's proposed Sweetwater

River Low Flow Interceptor and Southside Pond. Should it appear to be advantageous to Authority and San Miguel (each in their sole and absolute discretion) a separate agreement may be entered into providing for San Miguel to construct or finance facilities in a combined project. If such a combined project agreement is entered into, San Miguel would pay the costs for the portion of the project necessary to mitigate the effects of urban runoff from Rancho San Miguel and the Authority would credit San Miguel for the cost of constructing the portion of the project in excess of the cost necessary to mitigate the effects of urban runoff from Rancho San Miguel against the Total Fee due under this Agreement.

3.2 San Miguel anticipates that a significant portion of Rancho San Miguel may be designated as "open space." If such open space adjoins Authority's Sweetwater Reservoir lands and could serve as "buffer zone" between the reservoir and the urban development Authority and San Miguel are willing each in their sole and absolute discretion to consider terms and conditions under which Authority could acquire such open space from San Miguel.

3.3 The Authority and San Miguel agree to execute an expanded form of a more detailed Annexation Agreement prior to the submittal of an application for annexation, the terms of which shall be consistent with this Agreement.

3.4 This Agreement contains the entire agreement between the parties as of its date relating to the transactions

contemplated hereby, and all prior or contemporaneous agreements, understandings, representations and statements, oral or written, are merged herein.

3.5 No modification, waiver, amendment or change to this Agreement shall be effective unless the same is in writing and signed by the party against which the enforcement of such modification, waiver, amendment or change is or may be sought.

3.6 In the event any term, covenant, provision or agreement contained herein is held to be invalid or otherwise unenforceable by any court of competent jurisdiction, such invalidity shall in no way affect the validity or enforceability of any other term, covenant, condition, provision, or agreement contained herein.

3.7 All terms of this Agreement shall be binding upon, inure to the benefit of and be enforceable by the parties hereto and their respective legal representatives, successors and assigns.

3.8 The parties hereto acknowledge that San Miguel may investigate alternative methods of financing development of Rancho San Miguel, including, but not limited to, the issuance of public debt and/or Mello-Roos Financing. The parties hereto agree to consider, upon the request of either party hereto, the utilization of such financing mechanism to finance the construction of facilities required to provide water service as described herein.

Executed on the date above written.

SWEETWATER AUTHORITY, a
joint powers authority

By: Wayne W Smith

SAN MIGUEL PARTNERS, a
California general partnership

By: First City California-II
a California corporation,
General Partner

By: [Signature]
Its: SR. V. P.

By: Lund & Hauf, Inc., a
California corporation,
General Partner

By: William S Lund
Its: Partner

By: [Signature]
Its: President

APPENDIX I

PRELIMINARY SEWER CONCEPT PLAN STUDY FOR RANCHO SAN MIGUEL

**PRELIMINARY SEWER CONCEPT PLAN STUDY FOR
RANCHO SAN MIGUEL**

April 1990

Nolte and Associates

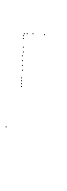
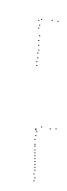
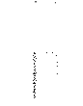
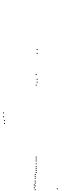


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1.0 INTRODUCTION

1.1 Background/Study Area

The Rancho San Miguel development is planned as a low density residential community of approximately 1800 units on 2590 gross acres. Land uses include residential, commercial, school, resort, park, and open space.

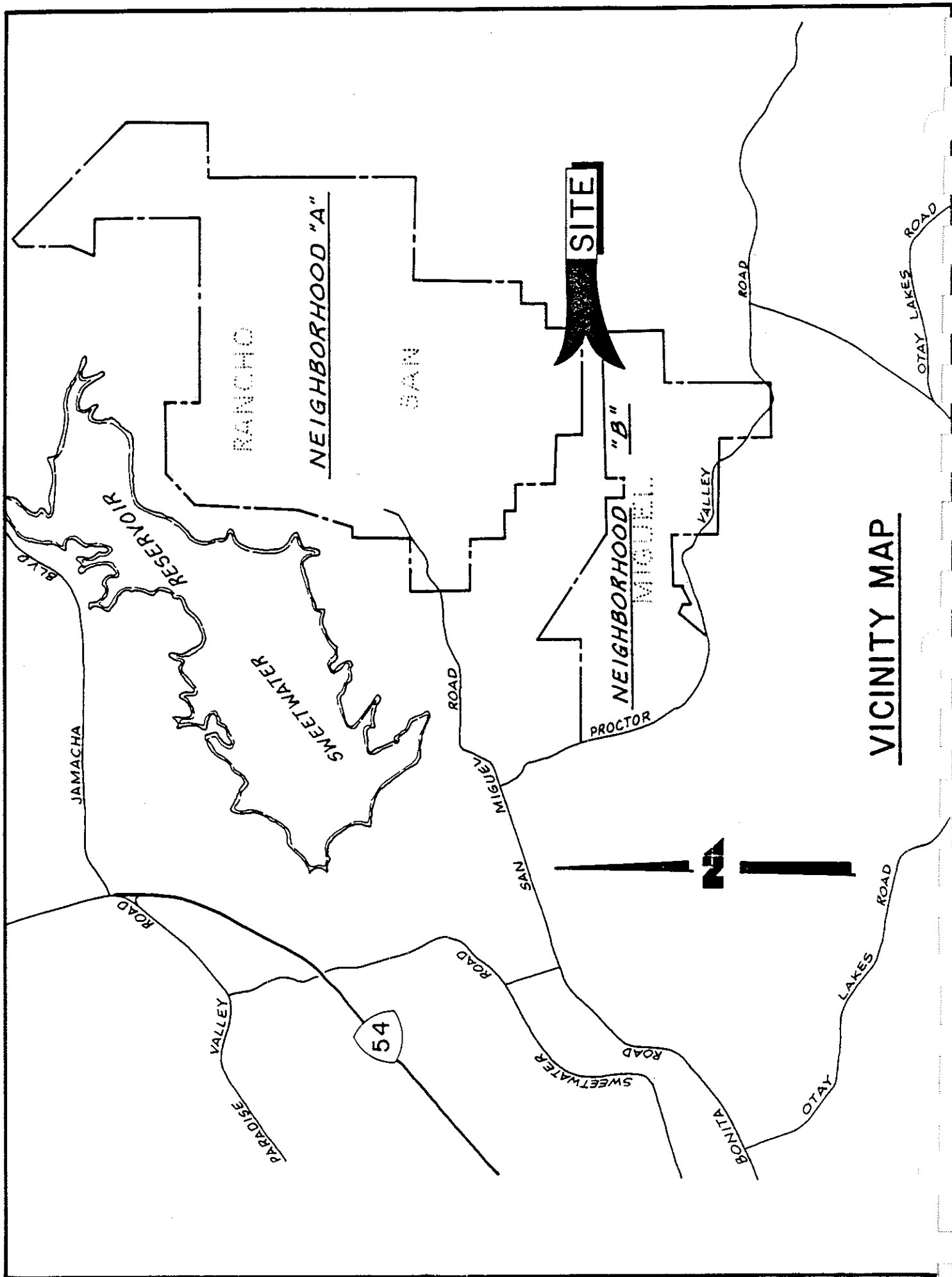
Located in the County of San Diego (pending annexation to the City of Chula Vista) just south of Sweetwater Reservoir, the Rancho San Miguel property is shown on the vicinity map (Figure 1). Figure 2 shows the Rancho San Miguel concept plan.

1.2 Purpose of Study

This report provides a concept plan of sewerage for the Rancho San Miguel project. On-site sewage flows are estimated and corresponding on-site sewage facilities recommended. Limitations of the existing off-site sewage collection system are identified and recommendations presented.

1.3 Summary of Recommendations

- Two pump stations with force mains and two gravity sewers are recommended for Rancho San Miguel's Neighborhood A on-site sewage system.
- A gravity sewer is recommended for Rancho San Miguel's Neighborhood B on-site sewage system.
- A total of 7400 feet of off-site gravity sewer is recommended to carry wastewater from Rancho San Miguel to the existing off-site sewage system located in the intersection of Bonita Meadows Lane and Proctor Valley Road.
- Sewer flow measurements or a study projecting existing flows in the segment of the Frisbee Sewer between Coral Canyon and Bonita Road is recommended to determine if there is capacity for the Rancho San Miguel wastewater flow.



VICINITY MAP

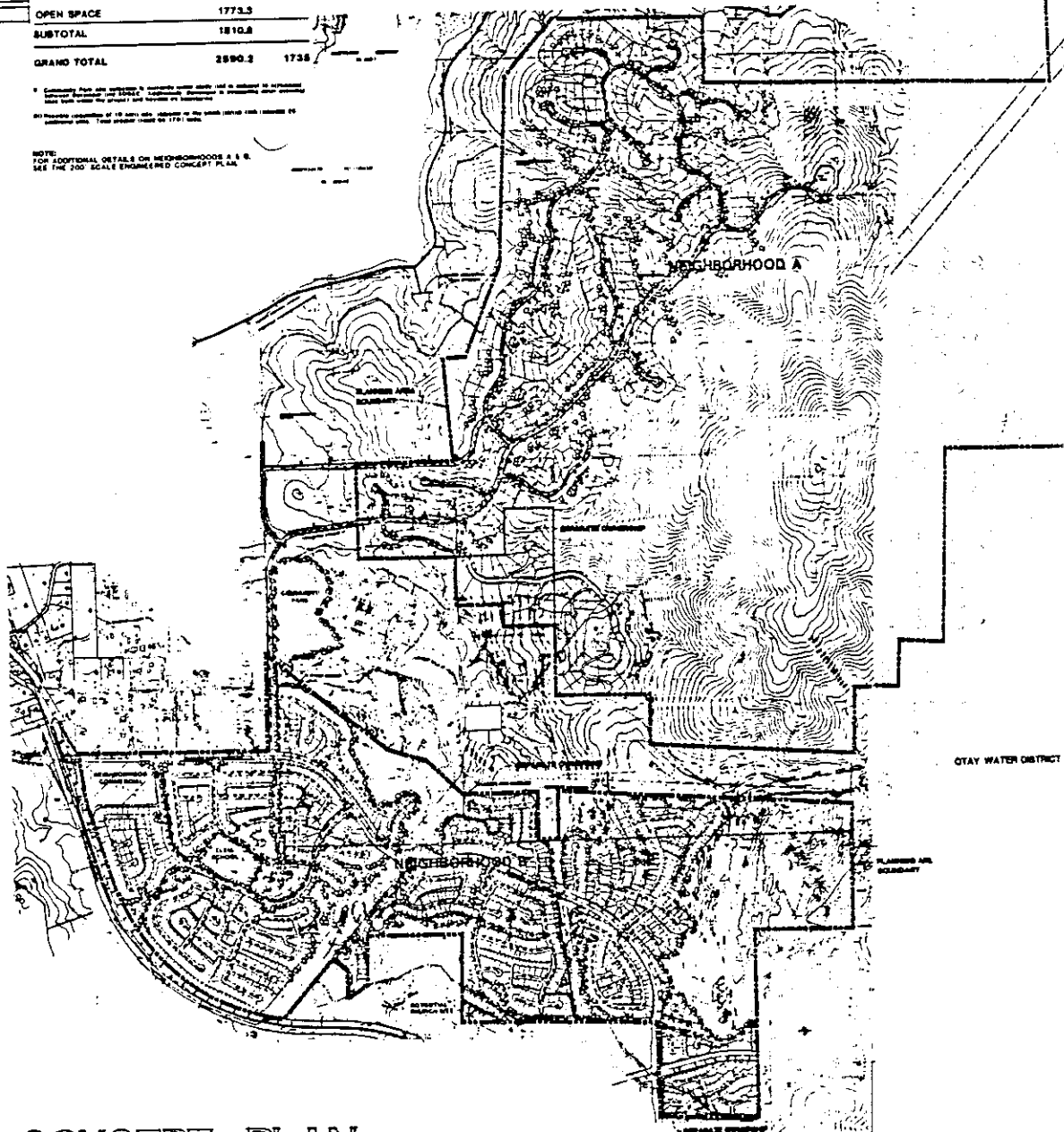
STATISTICAL SUMMARY

LAND USE	ACRES	UNITS
RESIDENTIAL LOW		
One Acre Average	367.1	367
8000-10,000 s.f. lots	174.0	598
7000-8000 s.f. lots	810.1	746
Elementary School	9.0	36
Neighborhood Park	7.0	
SUBTOTAL	787.2	1735
COMMERCIAL	14.0	
COMMUNITY PARK	1.5	(16 Acres Total)
CONFERENCE CENTER	6.7	
SUBTOTAL	22.2	
ROADS	37.6	
OPEN SPACE	1773.5	
SUBTOTAL	1810.8	
GRAND TOTAL	2890.2	1735

* Community Park site reference to adjacent water body used to estimate the percentage of open space. The 1.5 acre site is shown in the 200 scale concept plan.

801 Projected (estimated) of 10 acres site, adjacent to the water body, used to estimate the percentage of open space. Total project (estimated) of 1741 acres.

NOTE:
FOR ADDITIONAL DETAILS ON NEIGHBORHOODS A & B,
SEE THE 200 SCALE ENHANCED CONCEPT PLAN.



CONCEPT PLAN RANCHO SAN MIGUEL SAN MIGUEL PARTNERS

2.0 PROJECTED RANCHO SAN MIGUEL WASTEWATER FLOWS

Table 1, below, shows projected sewage flows for the Rancho San Miguel development.

TABLE 1
PROJECTED SEWAGE FLOWS FOR RANCHO SAN MIGUEL

<u>Land Use</u>	<u>Sewage¹ Generation Factor</u>	<u>Dwelling Units/ Acres</u>	<u>Cumulative Sewage Flows (gpd)</u>
Residential	3.5 pop/DU	1800	504,000
Commercial	3500 gpd/a ²	14.0	39,200
School	2500 gpd/a ²	9.0	18,000
Bed & Breakfast/ Conference Ctr.	3500 gpd/a ²	6.7	18,760
Parks/Interpretive Center	100 gpd/a ³	15.0	1,200
Adjacent Potential Residential	3.5 pop/DU	500	140,000
Average Cumulative Flow			721,160 gpd
Peak Flow (x 2.0)			1,442,320 gpd

1 Sewage flow = 80 gal/capita/day (Chula Vista Subdivision Manual)

2 Sewage generation factor based on equivalent population and net acres;
net acre = 80 x gross acres (City of San Diego Water Utilities
Department Water-Sewer Planning and Design Guide)

3 Engineering judgement

3.0 ON-SITE SEWAGE FACILITIES CONCEPT PLAN

3.1 Neighborhood A Facilities

Two pump stations (A and B) with force mains and two 8-inch gravity trunk sewers are recommended for sewage collection in Neighborhood A of the Rancho San Miguel development. The pump stations, force mains, and gravity trunk sewers are shown on Figure 3. Each 8-inch trunk sewer would serve laterals, not shown on Figure 3, running behind lots and in the streets.

Pump station A will transport wastes approximately 2000 feet by force main to a connection with the first gravity sewer (see Figure 3). This first 8-inch gravity sewer, approximately 3700 feet in length, would carry sewage to pump station B. From pump station B a force main approximately 1900 feet in length would transport the wastewater to the second 8-inch gravity sewer. This gravity sewer would carry the wastewater approximately 2500 feet to the southern boundary of Rancho San Miguel's Neighborhood A.

3.2 Neighborhood B Facilities

On-site sewage facilities for Neighborhood B of the Rancho San Miguel development will consist of a 10-inch gravity trunk sewer. The 10-inch trunk sewer will run approximately 11,300 feet along the southern property boundary of Neighborhood B and exit the Neighborhood at the western corner. (see Figure 3).

If in the future, lots are developed in areas of Neighborhood B which cannot be served (until adequate grades are provided by construction of State Route 125) by the proposed 10-inch gravity trunk sewer, an opportunity exists to connect to the interim sewage collection system of the adjacent Salt Creek I development. Figure 3 shows the location of the proposed Salt Creek I project.

4.0 OFF-SITE SEWAGE FACILITIES

4.1 Available Chula Vista METRO Sewer Capacity Rights

Shown in Table 2 is the unused contracted Metropolitan Wastewater System (METRO) capacity of the Chula Vista/Montgomery Sanitation District. The unused contract capacity is based on the difference between contracted METRO capacity and average daily wastewater flows (ADWF) from February 1988 to February 1989.

TABLE 2

UNUSED CITY OF CHULA VISTA/MONTGOMERY SANITATION DISTRICT
CONTRACT CAPACITY IN THE METROPOLITAN WASTEWATER SYSTEM
FY 1988-89

<u>Sanitation District</u>	<u>Contracted Capacity</u>	(MGD) <u>Estimated ADWF</u>	<u>Unused Capacity</u>
Chula Vista/Mont.	19.2	10.5	8.7

Table 2 indicates the Chula Vista/Montgomery District has a approximately 8.7 mgd of unused contract capacity in the METRO wastewater system which is sufficient for the 0.72 mgd average wastewater flow from the Rancho San Miguel development.

4.2 Existing Off-Site Sewage Facilities

The nearest existing sewer to the Rancho San Miguel property capable of tying the proposed on-site sewage facilities to the METRO system is located at the intersection of Bonita Meadows Lane and Proctor Valley Road (see Figure 3). This existing 15-inch polyvinylchloride (PVC) pipe stub is situated in a manhole in Proctor Valley Road approximately 1000 feet northwest of the Rancho San Miguel Neighborhood B property boundary. From this manhole in Proctor Valley Road, the 15-inch PVC pipe continues northwest becoming 15-inch vitrified clay pipe (VCP) and at approximately 1910 feet of length connects to the Frisbee Street trunk sewer.

The Frisbee Street trunk sewer is a 15-inch VCP line which runs southwest to Central Avenue and continues in Central Avenue until reaching the intersection of Bonita Road and Central Avenue. At the intersection of Bonita Road and Central Avenue, the Frisbee trunk sewer joins the 39-inch Spring Valley Outfall Sewer. The segment of the Frisbee Street trunk sewer which would convey Rancho San Miguel wastewater is approximately 4400 feet long. The 39-inch Spring Valley Outfall Sewer eventually increases to a 54-inch pipe as it extends approximately 6 miles west to its junction with the METRO trunk sewer at Interstate 5.

4.3 Physical Limitations In Off-Site Sewage Collection Systems

There are two limitations in the existing off-site sewage collection system: (1) no sewer line exists from the boundaries of Neighborhood A and B of Rancho San Miguel to the existing 15-inch sewer located in a manhole at the intersection of Bonita Meadows Lane and Proctor Valley Road; (2) the existing Frisbee Street trunk sewer, between Coral Canyon Road and Bonita Road, may have inadequate capacity to carry Rancho San Miguel wastewater flows.

4.4 Required Off-Site Sewage System Upgrades

Two off-site sewage system upgrades are needed to link the Rancho San Miguel wastewater flow to the METRO wastewater system:

First, two sewer lines must be constructed to connect the proposed Rancho San Miguel on-site sewage system to the existing 15-inch PVC sewer located in the intersection of Bonita Meadows Lane and Proctor Valley Road (see Figure 3). To tie the proposed Neighborhood A Rancho San Miguel on-site sewage system to the existing off-site 15-inch sewer, approximately 6200 feet of 8-inch PVC line must be constructed south from the boundary of Neighborhood A then west in Jonel Way. To link Neighborhood B's wastewater flow to the existing 15-inch sewer, 1200 feet of 10-inch PVC piping must be constructed along the southern boundary of the Neighborhood.

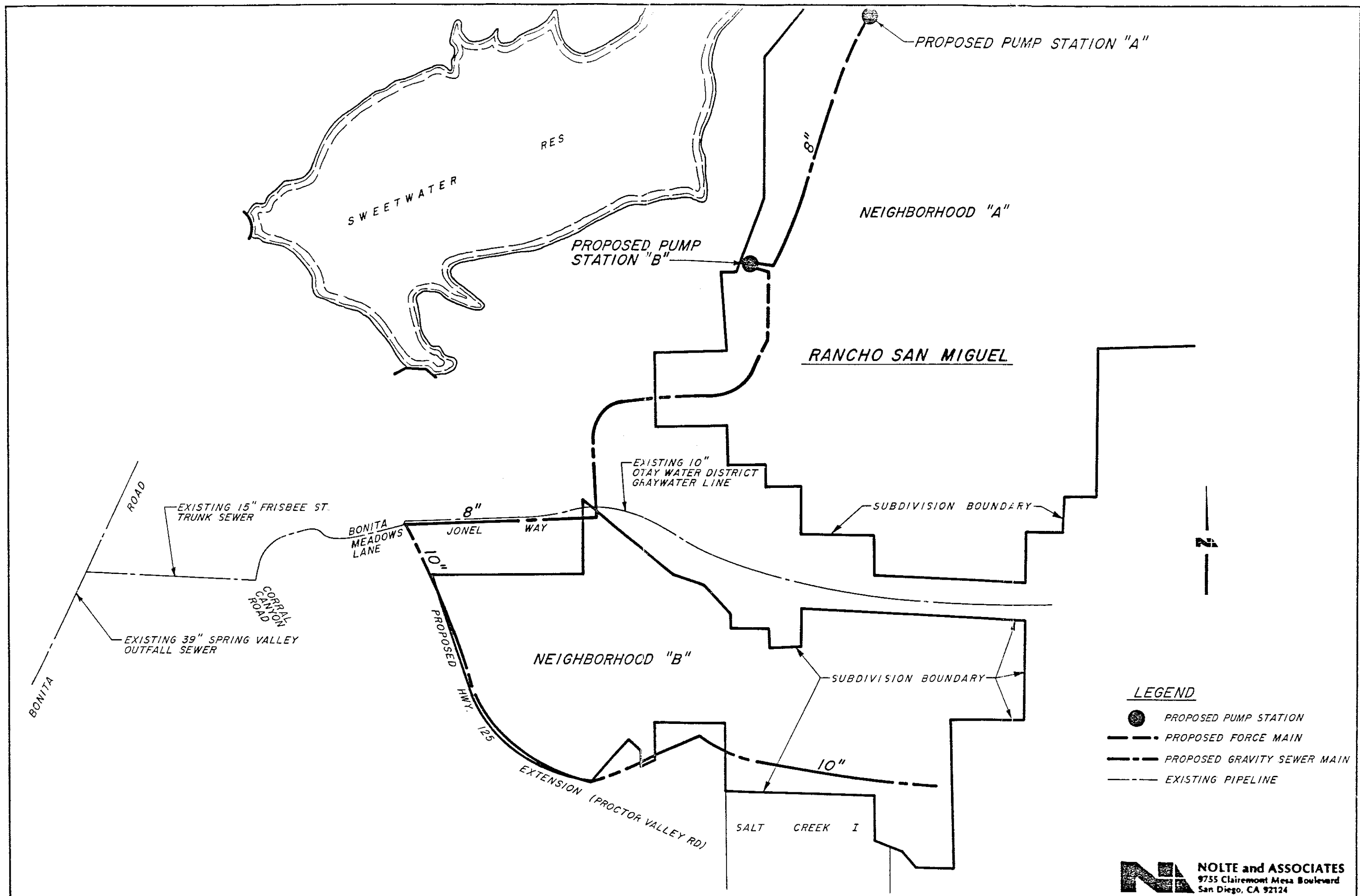
Second, a physical limitation to the off-site transport of Rancho San Miguel's wastewater flow may occur in a segment of the Frisbee Street 15-inch trunk sewer line. Specifically, the 3700 foot segment between Corral Canyon Road and Bonita Road may not have capacity to handle the additional Rancho San Miguel sewage flow. An actual sewer flow measurement or a study projecting existing wastewater flows in the Frisbee Street sewer between Corral Canyon and Bonita Road should be conducted.

5.0 CONCLUSIONS AND RECOMMENDATIONS

- The Neighborhood A Rancho San Miguel on-site sewage system requires two pump stations with 3900 feet of force mains and two 8-inch gravity sewers totalling 6,200 feet in length.
- The Neighborhood B Rancho San Miguel on-site sewage system requires approximately 11,300 feet of 10-inch gravity sewer.
- The City of Chula Vista has adequate unused contract capacity in the Metropolitan Wastewater System to handle the proposed Rancho San Miguel sewage flow.
- A 6200 foot 8-inch gravity sewer must be constructed south from Neighborhood A's boundary then west in Jonel Way to carry wastewater from Neighborhood A of Rancho San Miguel to the existing off-site sewage system located in the intersection of Bonita Meadows Lane and Proctor Valley Road.
- A 10-inch gravity sewer 1200 feet in length must be built along Rancho San Miguel's southern property boundary to convey Neighborhood B's wastewater flow to the existing off-site sewer in the Bonita Meadows

Lane/Proctor Valley Road intersection.

- The Frisbee Trunk Sewer may not have capacity between Coral Canyon Road and Bonita Road to handle the additional Rancho San Miguel wastewater flow. Sewer flow measurements or a study projecting existing flows in this segment of the Frisbee Sewer need to be conducted.



APPENDIX J

**LETTERS FROM SWEETWATER UNION HIGH
SCHOOL DISTRICT AND CHULA VISTA
ELEMENTARY SCHOOL DISTRICT**

Sweetwater Union High School District

ADMINISTRATION CENTER
1130 FIFTH AVENUE
CHULA VISTA CALIFORNIA 92011
(619) 691-5553

89-17
ONR
ref
✓

PLANNING DEPARTMENT

March 30, 1990

Mr. Robert A. Leiter
Director
City of Chula Vista
Planning Department
276 Fourth Avenue
Chula Vista, CA 92010

Dear Mr. Leiter:

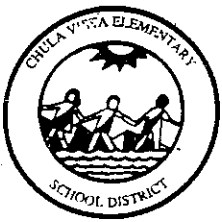
RE: Rancho San Miguel - Draft Development Plan

I appreciate the opportunity to review the Rancho San Miguel Draft Development Plan and provide comments as to it's relationship with the Sweetwater Union High School District.

As proposed, Rancho San Miguel will significantly impact the Sweetwater Union High School District. Given our current generation rate of 0.29 students per household, a total of 501 new students can be expected to enter the district of which, approximately 34% would attend junior/middle school.

Although a new high school will be provided in the EastLake Greens Community Plan, an additional high school will be needed in this area of the district to house students resulting from this project, as well as, those from other proposed surrounding developments. The cumulative impact of new development in this area needs to be addressed. For example, Rancho San Miguel, Salt Creek Ranch and the Proctor Valley Parcel of the Otay Ranch Development proposal will yield approximately 3,656 new secondary school age students.

With the decision that all new high schools will be on a four year (9th grade - 12th grade) schedule, the district will need to build a new high school to provide classroom space for the new students. I am requesting that the City require that the Rancho San Miguel Planned Community include a land use designation for one (1) 2,400 student capacity high school site. Of course, the school site will have to conform to State standards. However, the following general standards are used the District:



CHULA VISTA ELEMENTARY SCHOOL DISTRICT

84 EAST "J" STREET • CHULA VISTA, CALIFORNIA 92010 • 619 425-9600

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GREG R. SANDOVAL

SUPERINTENDENT

JOHN F. VUGRIN, Ph.D.

April 5, 1991

Ms. Debbie Turner
Project Analyst
ERCE
5510 Morehouse Drive
San Diego, CA 92121

RE: Enrollment Information

Dear Ms. Turner:

Per your request for District enrollment data and specific information on Sunnyside School, enclosed is a chart showing total enrollments from 1970 and projected through 1994.

As of March 22, 1991, 737 students were enrolled in Sunnyside School. That school has a permanent capacity of 627, with seven temporary relocatable classrooms on the site which can accommodate an additional 210 students. Additional students are anticipated from several new projects in the area, the largest of which is Salt Creek One, a 550 unit residential project currently under construction. Utilizing the District's average student generation rate of .3 students/unit, 165 new students can be anticipated from this project alone.

If you have additional questions, please contact me.

Sincerely,

Kate Shurson
Director of Planning

KS:dp

CHULA VISTA CITY SCHOOL DISTRICT EXHIBIT A

TOTAL ENROLLMENTS 1970 - 1994**

<u>YEAR</u>	<u>ENROLLMENT</u> <u>SECOND PERIOD</u>		<u>ANNUAL</u> <u>GROWTH</u>	<u>COMMENTS</u>
1970	15,951		—	
1971	17,180		—	
1975	15,770		—	Two new schools opened
1980	14,923		—	
1985	14,012		—	
1986	14,623	611	4.4%	
1987	15,300	677	4.6%	Twelve relocatable classrooms added
1988	15,952	652	4.3%	Eight relocatable classrooms added
1989	16,700	748	4.7%	Two new schools opened
1990	17,450	750	4.5%*	490 STUDENTS PROJECTED BY FEASIBILITY STUDIES (4/86 - 9-88) FOR CFD'S 1-4
1991	18,235	785	4.5%*	One new school proposed 537 STUDENTS PROJECTED BY FEASIBILITY STUDIES (4/86 - 9-88) FOR CFD'S 1-4
1992	19,055	820	4.5%*	One new school proposed 478 STUDENTS PROJECTED BY FEASIBILITY STUDIES (4/86 - 9-88) FOR CFD'S 1-4
1993	19,910	855	4.5%*	One new school proposed 511 STUDENTS PROJECTED BY FEASIBILITY STUDIES (4/86 - 9-88) FOR CFD'S 1-4
1994	20,800	890	4.5%*	One new school proposed 522 STUDENTS PROJECTED BY FEASIBILITY STUDIES (4/86 - 9-88) FOR CFD'S 1-4

* Annual growth shown at 4.5%

** Kindergarten through sixth grade including EAK, child care, and preschool.



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FRANK A. TARRANTINO

SUPERINTENDENT

JOHN F. VUGARN Ph.D.

March 30, 1990

Ms. Diana Gauss Richardson
Keller Environmental Associates, Inc.
964 Fifth Avenue, Suite 535
San Diego, CA 92101

RE: Rancho San Miguel Environmental Impact Report

Dear Ms. Richardson:

In response to your request for information on impacts the proposed Rancho San Miguel project will have on the Chula Vista City School District, please see my March 12, 1990, letter to Bob Leiter of the City of Chula Vista (attached).

The District utilizes an average student generation rate of .3 student per dwelling unit. Thus, the proposed 1727 - 1757 unit project can be expected to generate between 518 and 527 elementary students. Schools are designed to house 600 children on a traditional calendar.

There are no existing schools in the project area to serve this development. Therefore, a new elementary school will be needed and the District is pursuing discussions with the project developers as to the location of this site. Given the current shortfall in State funds and the inadequacy of developer fees for financing required facilities, alternative financing mechanisms, such as Mello-Roos Community Facilities Districts' should be considered.

If you have additional questions, please contact me.

Sincerely,

Kate Shurson

Kate Shurson
Director of Planning

KS:dp

cc: Tom Silva
Wayne Loftus

Enclosure

84 19
JDR

CHULA VISTA CITY SCHOOL DISTRICT EXHIBIT A

TOTAL ENROLLMENTS 1970 - 1994**

ENROLLMENT		ANNUAL		COMMENTS
YEAR	SECOND PERIOD		GROWTH	
1970	15,951		—	
1971	17,180		—	
1975	15,770		—	Two new schools opened
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There are no existing schools in the project area to serve this development. Therefore, a new elementary school will be needed and the District is pursuing discussions with the project developers as to the location of this site. Given the current shortfall in State funds and the inadequacy of developer fees for financing required facilities, alternative financing mechanisms, such as Mello-Roos Community Facilities Districts, should be considered.

If you have additional questions, please contact me.

Sincerely,

Kate Shurson

Kate Shurson
Director of Planning

KS:dp

cc: Tom Silva
Wayne Loftus

Enclosure

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JDR

APPENDIX F

**NOISE TERMINOLOGY AND TYPICAL NOISE
SOUND LEVELS**

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Appendix F

NOISE TERMINOLOGY

Term	Definition
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
A-Weighted Sound Level, dB(A)	The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter network. The A-weighting filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Community Noise Equivalent Level, CNEL	CNEL is the average sound level during a 24-hour day and it is calculated by adding 5 decibels (dB) to sound levels in the evening (7 p.m. to 10 p.m.) and adding 10 dB to sound levels in the night (10 p.m. to 7 a.m.).
L _{dn}	Similar to CNEL, however, there is no penalty for sound levels in the evening (7:00 p.m. to 10:00 p.m.). There is approximately a 1 decibel difference between L _{dn} and CNEL.
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Equivalent Noise Level, Leq	The energy mean "A" weighted sound level during the measured time interval
L ₁₀	The L ₁₀ is the sound level exceeded 10 percent of the time and corresponds to the peaks of noise.
L ₅₀	L ₅₀ is the sound level exceeded 50 percent of the time and corresponds to the average noise.

RE: Proposed Rancho San Miguel
General Development Plan

March 17, 1993

CANDIDATE FINDINGS OF FACT

I. INTRODUCTION

These findings relate to the Final Program Environmental Impact Report ("EIR 90-02") for the proposed Rancho San Miguel General Development Plan ("GDP" or "project"). Final EIR 90-02 is comprised of: (a) Draft EIR 90-02, including the comments and responses thereto; (b) technical appendices for EIR 90-02; and (c) Draft Supplement to EIR 90-02, including the comments and responses thereto. At this time, the discretionary actions relating to the proposed project include:

- General Development Plan (GDP) approval; and
- Planned Community (PC) pre-zoning approval.

Subsequent discretionary approvals for the proposed project include, among others, annexation to the City of Chula Vista, annexation to the South Bay Irrigation District, detachment from the Otay Water District, annexation to the Sweetwater Authority, a SPA Plan, a development agreement and tentative subdivision map(s).

II. PROJECT DESCRIPTION

Rancho San Miguel is a proposed single-family detached residential community located on approximately 2,590 acres of land (1,852-acre northern portion and 738-acre southern portion) in the northern portion of the Eastern Territories as defined by the City of Chula Vista General Plan. The project site is currently situated within the jurisdiction of the County of San Diego; however, the site is also within the City of Chula Vista's adopted Sphere of Influence. The project includes a General Development Plan ("GDP") for residential, commercial and open space uses and a prezone to the Planned Community ("P-C") District Zone.

The property is bounded generally by Proctor Valley Road on the south and west, the Otay water treatment facility and San Miguel Mountain on the east and the Sweetwater River and Sweetwater Reservoir on the north and northwest. The northern and southern portions of the project site are separated by property owned by San Diego Gas & Electric ("SDG&E"), which contains the San Miguel substation complex. Much of the surrounding area to the south and west is developed, or developing, with single-family and multi-family residences, commercial uses and parkland. The area to the north and east is undeveloped,

consisting of ruggedly steep areas associated with the San Miguel Mountains, lands owned by the Otay Water District, and lands owned by the Sweetwater Authority and containing the Sweetwater Reservoir. The general character of the area to the south and southwest of the project site is proposed to be low, low-medium and medium density residential, according to the Chula Vista General Plan. Mother Miguel Mountain, on the project site, is designated as open space in the City's General Plan. The project area is connected to the City's Greenbelt system along Salt Creek, Otay Lakes and Otay River to the south, and Sweetwater Reservoir and Sweetwater River to the west. State Route ("SR") 125 is proposed to run generally northwest/southwest through the immediate project area, although the final alignment is not yet known. The Rancho San Miguel GDP assumes that the SR 125 alignment will roughly follow along existing Proctor Valley Road. This alignment is consistent with the Circulation Element of the Chula Vista General Plan.

The project applicant is San Miguel Partners. The City of Chula Vista is the lead agency with discretionary approval authority over the proposed project.

The original proposed GDP included a total of 1,654 single-family residences and the following components: a 14-acre commercial center; an 11.2-acre elementary school site; a 20.5-acre community park; a 7-acre conference center/retreat and inn; a 6-acre interpretive center; pedestrian and bicycle trails connecting Rancho San Miguel to the surrounding community and the Chula Vista Greenbelt; and approximately 1,653 acres of permanent natural open space.

During preparation of both the original proposed GDP and the Draft EIR, analyses revealed various environmental impacts of the project. The analyses came from the Draft EIR, comments received from City staff regarding the original proposed GDP's consistency with the Chula Vista General Plan, and comments received from various persons and organizations during the CEQA public review period. In response, the applicant refined the project to attempt to reduce or otherwise lessen the identified impacts of the proposed GDP project. These refinements resulted in preparation of a "Mitigation Concept Plan." The Mitigation Concept Plan was examined in an Addendum to Draft EIR 90-02.

Public hearings were held before both the Chula Vista Planning Commission and the City Council in September and October of 1992. As a result of comments and testimony received at those hearings, City staff and the applicant continued to work on proposed design changes to address unresolved issues with respect to the project. The proposed project has been further refined to address these unresolved issues. The proposed changes are now reflected in the "New Plan," which is the subject of the Supplement to EIR 90-02.

The proposed "New Plan," which is fully described and illustrated in Section 2 of the Supplement, proposes various design changes to the southern portion of the Rancho San Miguel GDP. The proposed changes were made in response to: (a) public comments received on Draft EIR 90-02 during the CEQA public review period; (b) City staff concerns over the original project's consistency with the Chula Vista General Plan; (c) public testimony received at the hearing before the Planning Commission on September 30, 1992, and the hearing before the City Council on October 27, 1992; and (d) comments made by members of both the Planning Commission and City Council at the two public hearings.

The differences between the earlier Mitigation Concept Plan and the "New Plan" are as follows: (a) additional estate-size lots have been added to the southern portion to obtain a majority of lots within the Low Residential designated areas as shown on the Chula Vista General Plan; (b) the "luxury" or midsize lots shown in the Mitigation Concept Plan have been eliminated; (c) the remaining non-estate lots are designated as "cluster" lots with a minimum lot size of 7,000 square feet; and (d) the overall density of the southern portion has been reduced by 35 units due to the applicant's decision to not request a density transfer from open space on the northern portion to the southern portion.

The "New Plan" does not alter, affect or change the Rancho San Miguel GDP as it relates to the northern portion of the project. The northern portion remains as it is proposed in Draft EIR 90-02.

The Supplement to Draft EIR 90-02 was circulated for public and agency review for a 30-day shortened review period pursuant to CEQA, the CEQA Guidelines and the State Clearinghouse guidelines and criteria. During the public review period, the City received written comment letters from various persons, organizations and public agencies. On February 10, 1993, the Planning Commission held a public hearing to obtain additional public comments regarding the Draft Supplement to EIR 90-02. Since that time, City staff and the environmental consultant have prepared written responses to the comment letters, and have completed preparation of the Final Supplement to EIR 90-02.

III. PROGRAM EIR AND SUPPLEMENT

A program EIR is an "EIR which may be prepared on a series of actions that can be characterized as one large project" and are related either: (a) geographically; (b) as logical parts in the chain of contemplated actions; (c) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (d) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. (CEQA Guidelines, 14 Cal.CodeReg. §15168(a)).

Use of a program EIR can provide the following advantages: (a) provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action; (b) ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis; (c) avoid duplicative reconsideration of basic policy considerations; (d) allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems of cumulative impacts; and (e) allow reduction in paperwork. (CEQA Guidelines, 14 Cal.CodeReg. §15268(b)).

"Use of the program EIR also enables the Lead Agency to characterize the overall program as the project being approved at that time. Following this approach when individual activities within the program are proposed, the agency would be required to examine the individual activities to determine whether their effects were fully analyzed in the program EIR. If the activities would have no effects beyond those analyzed in the program EIR, the agency could assert that the activities are merely part of the program which had

been approved earlier, and no further CEQA compliance would be required. This approach offers many possibilities for agencies to reduce their costs of CEQA compliance and still achieve high levels of environmental protection." (CEQA Guidelines, 14 Cal.CodeReg. discussion following §15168).

Final EIR 90-02 has been determined to be a program EIR by the City of Chula Vista because the proposed Rancho San Miguel GDP is an initial step in a chain of contemplated actions and, therefore, qualifies to be analyzed at the program level.

The Lead Agency may choose to prepare a supplement to an EIR, rather than a subsequent EIR, if: (a) any of the conditions described in CEQA Guidelines §15162 require the preparation of a subsequent EIR; and (b) only minor additions or changes are necessary to make the previous EIR adequately apply to the project in the changed situation. (CEQA Guidelines, 14 Cal.CodeReg. §15163). CEQA Guidelines §15162 states that where an EIR has been prepared, no additional EIR need be prepared unless subsequent changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental impacts not considered in the previous EIR; substantial changes occur with respect to the circumstances under which the project is being undertaken which will require important revisions in the previous EIR due to the involvement of new significant environmental impacts not considered in the previous EIR; or new information which was not known and could not have been known at the time the previous EIR was certified as complete, becomes available, and the new information shows that: (1) the project will have one or more significant effects not discussed in the original EIR; (2) significant effects previously examined will be substantially more severe than shown in the first EIR; (3) mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more of the project's significant effects; or (4) mitigation measures or alternatives that were not previously considered would substantially lessen one or more significant effects on the environment.

The supplement to an EIR need only contain the information necessary to make the previous EIR adequate for the project, as revised. (CEQA Guidelines, 14 Cal.CodeReg. §15163(b)). A supplement is given the same kind of notice and public review as is required for a draft EIR; however, the supplement may be circulated by itself without recirculating the previous EIR. (CEQA Guidelines, 14 Cal.CodeRegs. §15163(c),(d)). The decision-making body shall consider the previous EIR as revised by the supplement when deciding whether to approve the project, as revised. (CEQA Guidelines, 14 Cal.CodeRegs. §15163(e)).

The proposed New Plan is an alternative which reduces General Plan inconsistency issues and for which only minor additions or changes are necessary to make the previous EIR adequately apply to the project in the changed situation. Therefore, the Supplement to EIR 90-02, which was publicly circulated in accordance with CEQA and the CEQA Guidelines, is an appropriate document.

IV. RECORD OF PROCEEDINGS

For purposes of CEQA and these findings, the administrative record of the City Council decision on the environmental analysis of this project shall include the following:

- Final Program EIR 90-02, including all appendices and technical reports;
- The applications for a General Development Plan and a Prezone request for the project, including the Rancho San Miguel General Development Plan;
- All reports, memoranda, maps, letters and other planning documents prepared by planning consultants, the environmental consultant, the project applicant and the City of Chula Vista, which are before the decisionmakers as determined by the City Clerk;
- All documents submitted by members of the public, and public agencies in connection with the Final EIR on the proposed project;
- Minutes and verbatim transcripts of all workshops, public meetings and public hearings held on the project by the City of Chula Vista (or video tapes where transcripts are not available or adequate);
- All documents referenced in Final EIR 90-02;
- Any documentary or other evidence submitted at workshops, public meetings and public hearings; and
- Matters of common knowledge to the City of Chula Vista which it considers, including but not limited to, the following:
 - Chula Vista General Plan (Update)-2010
 - County of San Diego General Plan
 - Relevant Zoning Code of the City of Chula Vista.

V. TERMINOLOGY/THE PURPOSE OF FINDINGS UNDER CEQA

Section 15091 of the CEQA Guidelines requires that, for each significant environmental effect identified in an EIR, the approving agency must issue a written finding reaching one or more of three allowable conclusions. The first is that: "[c]hanges or alterations have been required in, or incorporated into, the project which *avoid* or *substantially lessen* the significant environmental effect as identified in the final EIR." (*Emphasis added*). The second potential finding is that: "[s]uch changes or alterations are

within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency." The third permissible conclusion is that: "[s]pecific economic, social or other considerations made infeasible the mitigation measures or project alternatives identified in the final EIR."

Regarding the first of three potential findings, the CEQA Guidelines do not define the difference between "avoiding" a significant environmental effect and merely "substantially lessening" such an effect. The meaning of these terms, therefore, must be gleaned from other contexts in which they are used. Public Resources Code §21081, on which CEQA Guidelines §15091 is based, uses the term "mitigate" rather than "substantially lessen." The CEQA Guidelines, therefore, equate "mitigating" with "substantially lessening." Such an understanding of the statutory term is consistent with Public Resources Code §21001, which declares the Legislature's policy of disfavoring the approval of projects with significant environmental effects where there are feasible mitigation measures or alternatives that could "avoid or substantially lessen" such significant effects.

For purposes of these findings, the term "avoid" shall refer to the ability of one or more mitigation measures to reduce an otherwise significant effect to a *less-than-significant level*. In contrast, the term "substantially lessen" shall refer to the ability of such measures to substantially reduce the severity of a significant effect, *but not to reduce the effect to a level of insignificance*. Although CEQA Guidelines §15091 requires only that approving agencies specify that a particular significant effect is "avoid[ed] or substantially lessen[ed]," these findings, for purposes of clarity, will specify whether the effect in question has been fully avoided (and thus reduced to a level of insignificance) or has been substantially lessened (and thus remains significant).

The purpose of these findings is to systematically restate the significant effects of the proposed project on the environment identified in the Final Program EIR, and determine the feasibility of mitigation measures and project alternatives identified in the Final Program EIR which would avoid or substantially lessen those significant effects. Once the City has adopted sufficient measures to avoid a significant impact, the City does not need to adopt every mitigation measure brought to its attention or identified in the Final Program EIR. The City shall not reduce housing units as a mitigation measure to a project, if the City determines another specific mitigation measure will provide a comparable level of mitigation.

It is the policy of the State of California and the City of Chula Vista to not approve a project if there are available feasible mitigation measures or project alternatives which would substantially lessen that project's significant environmental effects. Only when such mitigation measures or project alternatives are found to be infeasible because of specific economic, social or other conditions set forth in these findings may the City approve a project in spite of its significant effects.

Another purpose of these findings is to bring focus to project alternatives in the ultimate decisionmakers' decision whether to approve or disapprove the project. If, after application of all feasible mitigation measures to the project, significant impacts remain, project alternatives identified in the FPEIR must be reviewed and determined to be feasible

or infeasible. The findings set forth the reasons, based on substantial evidence in the record, that the decisionmakers conclude any such project alternatives are infeasible (see further discussion in Feasibility of Alternatives Section).

VI. LEGAL EFFECT OF FINDINGS

To the extent that these findings conclude that proposed mitigation measures outlined in the Final EIR are feasible and have not been modified, superseded or withdrawn, the City of Chula Vista ("City" or "decisionmakers") hereby binds itself and any other responsible parties, including the applicant and its successors in interest, to implement those measures. These findings, in other words, are not merely informational or hortatory, but constitute a binding set of obligations that will come into effect when the City adopts a resolution approving the proposed project.

The adopted mitigation measures are express conditions of approval. Other measures are referenced in the mitigation monitoring program adopted concurrently with these findings, and will be effectuated through the process of implementing the Rancho San Miguel GDP.

VII. MITIGATION MONITORING PROGRAM

As required by Public Resources Code §21081.6, the City of Chula Vista, in adopting these findings, also adopts a mitigation monitoring and reporting program as prepared by the environmental consultant under the direction of the City. The program is designed to ensure that, during project implementation, the applicant and any other responsible parties comply with the feasible mitigation measures identified below. The program is described in the document entitled, "Rancho San Miguel General Development Plan Mitigation Monitoring Program."

VIII. DIRECT SIGNIFICANT EFFECTS AND MITIGATION MEASURES

Final EIR 90-02 identified a number of direct significant environmental effects (or "impacts") that the project will cause, some of which could be fully avoided through the adoption of feasible mitigation measures, while others could not be avoided.

The project will result in the following significant irreversible environmental changes: Land Use, Landform/Visual Quality, Biology, Archaeology/Paleontology, Geology/Soils, Hydrology, Water Quality, Transportation/Access, Air Quality, Noise, and Public Services and Utilities. These significant environmental changes or impacts are discussed in both the Draft EIR 90-02, at pages 3-1 through 3.16-8, and the Supplement to Draft EIR, at pages 3.1-1 through 3.16-6.

Certain of the above impacts cannot be substantially lessened or avoided at the General Development Plan level; but, as described in the Statement of Overriding Considerations, the City Council has determined that the impacts are acceptable because of specific overriding benefits. The following sub-sections describe specific impacts, setting forth either the reasons why they are significant and unavoidable, the mitigation measures

adopted to substantially lessen or avoid them, or the reasons why proposed mitigation measures are infeasible due to specific economic, social or other considerations.

A. LAND USE

Significant Effect: Development of the northern portion of the site is potentially incompatible with the adjacent Sweetwater Reservoir. Contaminants from urban runoff could degrade the water quality of the reservoir, which stores drinking water supplies.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and will be implemented at the SPA plan level. Upon implementation, the following measures will reduce the significant land use impact to below a level of significance:

- The project applicant shall submit and obtain approval of stormwater management plans, including a proposed runoff protection system, from the Sweetwater Authority. Such plans shall satisfy the Authority's standards for the preservation of water quality in the Sweetwater Reservoir prior to approval of a SPA Plan for the northern portion of the project. For specific mitigation concerning this issue, see the mitigation measures included in sub-section G of these findings.

* * * *

Significant Effect: The location of residential units adjacent to the SDG&E Miguel substation is considered a significant impact with respect to land-use compatibility. The utility may expand the facility in the future and potential conflicts could arise with residents adjacent to the expanded facility.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and the SPA plan level:

- The applicant shall provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper describing future SDG&E expansion plans, to the extent feasible. The applicant shall also provide buyers of these lots with a Grant Deed containing a provision describing future SDG&E expansion plans, to the extent feasible. This requirement will ensure that information

regarding SDG&E's future expansion plans are disclosed to all subsequent home buyers. The Rancho San Miguel CC&Rs shall also contain information regarding the expansion plans for the SDG&E substation to provide disclosure to subsequent home buyers.

- The project shall minimize visual impacts of the SDG&E facility to the maximum extent feasible through a comprehensive buffer plan at the SPA Plan level which includes measures such as landscaping, significant topography variation (including use of natural topography as well as berming), and homesite orientation for houses near the SDG&E property. This plan shall include the following measures:

Establishment of separation of development setback incorporating landscaped greenbelt or residential collector street;

Achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses near the substation property;

Utilization of graded materials to construct view screening landscaped mounds;

Provision for SDG&E to view the final plans so that visual impacts can be better determined and, at that time, additional landscaping and screening may be necessary to mitigate visual impacts.

- The applicant shall provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvements on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance.
- The applicant shall continue to coordinate with SDG&E throughout the processing of SPA Plans for this project.
- The applicant commits to not oppose SDG&E's decision to process its expansion plans through the City provided that: (i) this project's processing time is not delayed as a result of SDG&E's processing; (ii) the City treats the two projects as separate processes, with separate hearing schedules; and (iii) SDG&E's processing is not conducted at the applicant's expense.

Implementation of these measures will reduce the land use impacts of this project to the SDG&E substation facility to below a level of significance at the GDP level; however, this issue will be analyzed anew at the SPA Plan level to determine the significance of this

impact after the applicant has complied with the mitigation measures contained within this GDP EIR.

- SDG&E proposed two additional measures to mitigate impacts of the future expansion of the substation facility:
 - Location of commercial center adjacent to the southwest boundary of the substation.
 - Location of Bonita Miguel Road (San Miguel Ranch Road) adjacent to the southwest boundary of the substation.

As noted above, however, the land use impacts of this project to the SDG&E substation facility have already been reduced to below a level of significance, even without implementing the two additional measures proposed by SDG&E. Moreover, SDG&E's proposals would require a significant redesign of the project. Accordingly, the City does not incorporate these two proposed mitigation measures into the project.

* * * *

Significant Effect: The project is proposing an affordable housing element; however, a detailed program to achieve compliance with the City's provisions related to affordable housing has not been determined at this time.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and will be implemented at the SPA Plan level. Upon implementation, the following measures will reduce the significant land use-related impact to below a level of significance:

- Consistency with the General Plan's affordable housing provisions shall be achieved upon satisfying the City's performance criteria at the SPA Plan level. Ensuring consistency with the Housing Element of the City's General Plan will require that the project applicant provide, in an affordable housing program, methods to devote 10 percent of the dwelling units to low and moderate income housing; provide equivalent offsite mitigation; or pay fees as determined through the submission of a proposal as part of the SPA Plan processing. This proposal shall be responsive to the City policies concerning affordable housing that may be in effect at the time of the SPA Plan processing. The issue of

affordable housing will require subsequent review at the SPA Plan level.

* * * *

Significant Effect: The project's proposed trail system includes trails that are within SDG&E power transmission easements. The City Parks & Recreation Department discourages the placement of trails in these easements. This is a potentially significant impact.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and will be implemented at the SPA Plan level. Upon implementation, the following measures will reduce the significant land use-related impact to below a level of significance:

- To mitigate the impacts associated with the provision of trails on SDG&E easements, more specific development plans will be reviewed at the SPA Plan level to determine if the proposed locations are consistent with City policies to minimize use of trails within SDG&E easements.

* * * *

B. LANDFORM/VISUAL QUALITY

Significant Effect: The designated site for the interpretive center, conference center and inn contain topography with slopes in excess of 25 percent. Landform impacts associated with the interpretive center and conference center and inn are unknown at this time, and will be analyzed at the SPA Plan level when grading plans for these facilities are available.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and will be implemented at the SPA Plan level:

- At the SPA Plan level, the applicant shall provide the City planning department with detailed grading plans for the interpretative center, conference center/retreat and inn in the northern portion of the project. Such grading plans shall minimize cut and fill slopes,

substantially preserve knolls and ridgelines and revegetate graded areas with native vegetation to the extent consistent with the City's fire safety standards. Implementation of this measure will reduce the landform impacts of this project to below a level of significance at the GDP level; however, this issue will be analyzed anew at the SPA Plan level to reexamine the significance of this impact after the applicant has complied with the measures contained in this GDP EIR.

* * * *

Significant Effect: Impacts due to extensive grading in the southern portion are considered to be significant.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effects associated with general grading activities in the southern portion of the project.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and will be implemented at the SPA Plan level:

- The SPA Plan shall demonstrate compliance with hillside development General Plan policies during the SPA Plan review to the satisfaction of city planning staff. Implementation of this measure will reduce the landform impacts of this project associated with general grading activities in the southern portion to below a level of significance at the GDP level; however, this issue will be analyzed anew at the SPA Plan level to reexamine the significance of this impact after the applicant has complied with the measures contained in the GDP EIR.

* * * *

Significant Effect: Two topographic features in the southern portion of the site would be extensively graded (Horseshoe Bend would be significantly changed and Gobbler's Knob would be entirely removed). This impact has a significant visual component as well, because these features are highly visible from adjacent public areas and neighborhoods.

Finding: A major project redesign would be required to avoid the identified significant landform/visual quality effects associated with the grading of Horseshoe Bend and Gobbler's Knob. However, a project redesign is not feasible from a planning standpoint for the following reasons: (i) these two landforms are not noted as significant by the Chula Vista General Plan and, if preserved, would create a barrier to the cohesion and continuity of the southern portion of the project; (ii) the southern portion preserves over 25 acres of Horseshoe Bend, and any further preservation of Horseshoe Bend would disrupt the continuity of the southern portion, since the landform essentially splits the southern portion; and (iii) preservation of these two landforms (and their use for housing which meets the

hillside development General Plan policies) would require movement of San Miguel Ranch Road from its optimal alignment, and create potential erosion problems due to the geological nature of these proposed landforms. Pursuant to Section 15091(a)(3), there are no feasible measures that would mitigate the landform/visual quality impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

* * * *

Significant Effect: Large and potentially conspicuous potable water storage tanks are proposed for provision of drinking water at adequate pressure. The exact locations of the tanks have not been determined at this time; therefore the impacts are unknown.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and will be implemented at the SPA Plan level.

- The SPA Plan shall depict the exact location of the water tanks and shall contain binding landscaping design guidelines to address the potential visual impacts of the proposed water tanks. Implementation of this measure will reduce the landform impacts of this project to below a level of significance at the GDP level; however, this issue will be analyzed anew at the SPA Plan level to reexamine the significance of this impact after the applicant has complied with the measures contained in this GDP EIR.

* * * *

Significant Effect: A limited number of lots on the southern portion will be orientated toward the existing and proposed future SDG&E facilities with potential adverse visual impacts.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. These measures are required at the GDP level and the SPA Plan level:

- The applicant shall provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper

describing future SDG&E expansion plans, to the extent feasible. The applicant shall also provide buyers of these lots with a Grant Deed containing a provision describing future SDG&E expansion plans, to the extent feasible. This requirement will ensure that information regarding SDG&E's future expansion plans are disclosed to all subsequent home buyers. The Rancho San Miguel CC&Rs shall also contain information regarding the expansion plans for the SDG&E substation to provide disclosure to subsequent home buyers.

- The project shall minimize visual impacts of the SDG&E facility to the maximum extent feasible through a comprehensive buffer plan at the SPA Plan level which includes measures such as landscaping, significant topography variation (including use of natural topography as well as berming), and homesite orientation for houses near the SDG&E property. This plan shall include the following measures:

Establishment of separation of development setback incorporating landscaped greenbelt or residential collector street;

Achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses near the substation property;

Utilization of graded materials to construct view screening landscaped mounds;

Provision for SDG&E to view the final plans so that visual impacts can be better determined and, at that time, additional landscaping and screening may be necessary to mitigate visual impacts.

- The applicant shall provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvements on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance.
- The applicant shall continue to coordinate with SDG&E throughout the processing of SPA Plans for this project.
- The applicant commits to not oppose SDG&E's decision to process its expansion plans through the City provided that: (i) this project's processing time is not delayed as a result of SDG&E's processing; (ii) the City treats the two projects as separate processes, with separate hearing schedules; and (iii) SDG&E's processing is not conducted at the applicant's expense.

Tarweed and Palmer's Grappling Hook, provided all of the following requirements are met: (a) the criteria set forth in the southern mitigation plan, as described in the Supplement at pages 3.3-50 to 3.3-62, are satisfied at the SPA Plan level; (b) no substantial changes have occurred to the project or its circumstances since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs. §15162(a)(1)(2)); and (c) no significant new information has arisen since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs §15162(a)(3)).

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval:

- The one pair of coastal cactus wren which would be impacted will be mitigated by the preservation of 3 pairs of cactus wrens located in the southern open space parcel (S4). In addition, cholla stands which are to be impacted by the project will be transplanted to expand and enhance the cactus wren populations in the south parcel S4 open space. Transplanted cactus habitat shall be created in disturbed areas of the south parcel open space over an area equal to or exceeding the use area of the cactus wren pair to be displaced prior to elimination of the existing occupied habitat on-site. To determine the appropriate mitigation area, the activity patterns of the impacted cactus wren and the 3 territories within the S4 open space shall be monitored to determine boundaries of the home ranges and to characterize the important elements of home range usage. In addition, vegetation will be characterized within the home range using standard vegetation transect methodology to determine plant cover, height, and frequency distribution of various elements.
- Enhancement for coastal cactus wrens by transplantation of large cholla cactus has shown promise in the Poggi Canyon cactus transplant, in which cactus moved in 1990 were occupied by one nesting pair of coastal cactus wrens in 1992. The nest supported eggs and young early in the season, however neither the adults or young could be located in July. For this reason, it is unknown whether this pair successfully fledged young this year. Mitigation at the SPA level will be required to include preserve design criteria.
- The following coastal cactus wren mitigation program guidelines shall form the basis for studies to be conducted on the on-site coastal cactus wrens and shall form the basis for the final cactus wren mitigation program development. In that a study to document characteristics of wren habitat is to precede the determination of the ultimate appropriate restoration measures for this target species, the guidelines below should be considered a working framework with minimal milestones to be finalized at the subsequent specific plan stage.
 - Three pairs of coastal cactus wrens are to be protected within the S4 open space identified in Plate 4. This open space is to

be fenced along the development sides to prevent general access.

A monitoring program shall be implemented to characterize habitat requirements of coastal cactus wrens. The study shall include an analysis of the three cactus wren pairs in open space S4 as well as the one pair to be impacted in the southern development area. The monitoring program shall run for a period of one year. An interim report shall be prepared to detail the results of the first 6 months of monitoring. This report shall be completed and shall be submitted to the City, USFWS, and CDFG. The results of this report shall be used to establish mitigation criteria for SPA approvals. A final report is to be completed and shall form the basis for final mitigation designs and grading permit issuance in the development area supporting the cactus wren pair. The program shall include the following:

Weekly monitoring and home-range use studies of each of the 4 territories shall be conducted for a period of no less than 2 hours/territory/interval. Monitoring periods are to be staggered to ensure all diurnal periods are covered for each pair. Studies are to include a documentation of activity budgets (ie, foraging, displaying, defending, roosting, breeding, etc.), an identification of time spent on each primary plant taxa occurring within the territory, and an identification of home-range size, shape and location over the course of the year using occurrence frequency data.

Vegetation characterization of each home-range is to be completed during the pre-breeding spring months of 1993. This work shall include a documentation of percent composition of various elements, frequency distribution of elements, height structure, and similarity between territories. Work is to be completed along 50 meter line intercept transects distributed randomly within home-ranges. The number of transects to be used in each territory shall be determined based on territory size and homogeneity.

An analysis of existing territory sizes and composition and recommendations for restoration of a territory within open space S4 as a compensation territory. This recommendation shall be based on observed activities and conditions within occupied territories and shall include a consideration of "favored" habitat elements and

territorial boundary interactions. The report shall also consider existing restoration technology and shall make recommendations as to the most appropriate restoration techniques to maximize success. This report shall include a habitat restoration plan which provides specific guidance on creating a suitable habitat for cactus wrens and appropriate maintenance, monitoring and success milestones.

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Significant Effect - Southern Portion: The loss of .5 acres of wetland habitat in the southern portion is considered a significant impact by the California Department of Fish and Game.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will substantially lessen the significant environmental effect as identified in Final EIR 90-02. At the SPA Plan level, the City will make a subsequent CEQA "significance" determination as to whether the southern mitigation plan reduces impacts to wetland habitat to below a level of significance. It is anticipated that all impacts to biological resources on the southern portion will be mitigated to below a level of significance, with the exception of impacts to the Otay Tarweed and Palmer's Grappling Hook, provided all of the following requirements are met: (a) the criteria set forth in the southern mitigation plan, as described in the Supplement at pages 3.3-50 to 3.3-62, are satisfied at the SPA Plan level; (b) no substantial changes have occurred to the project or its circumstances since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs. §15162(a)(1)(2)); and (c) no significant new information has arisen since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs §15162(a)(3)).

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval:

- Mitigation of wetland impacts shall be accomplished primarily by avoidance measures. It is estimated that 0.5 acre of dry alkaline marsh occurs within the southern parcel in an area which cannot be avoided by the project work. In order to compensate for this impacted habitat, additional wetlands of a similar type will be increased within an area designated as open space in the southwestern portion of the north parcel (Figure 1). This area totals approximately 10 acres and supports a very narrow channel bounded by non-native grassland upstream of an existing pond. This mitigation site would involve the reconfiguration of the northern development envelope at this location to eliminate encroachment by 5 lots.
- A small detention basin shall be constructed on this channel to create a seasonal impoundment pond. The basin will be revegetated by Mulefat, San Diego Marsh Elder, and Southwestern Spiny Rush.

Similar habitat occurs elsewhere on this channel and as such, it is expected that such mitigation may be readily accomplished in this location. Mitigation is to be completed on a 1:1 area and value basis as recommended by the Supplement.

* * * *

Significant Effect - Southern Portion: Loss of approximately 30 individuals of San Diego Marsh Elder would occur within the southern portion of the project. Because of its location within wetlands, the impact is considered to be significant.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will substantially lessen the significant environmental effect as identified in Final EIR 90-02. At the SPA Plan level, the City will make a subsequent CEQA "significance" determination as to whether the southern mitigation plan reduces impacts to San Diego Marsh Elder to below a level of significance. It is anticipated that all impacts to biological resources on the southern portion will be mitigated to below a level of significance, with the exception of impacts to the Otay Tarweed and Palmer's Grappling Hook, provided all of the following requirements are met: (a) the criteria set forth in the southern mitigation plan, as described in the Supplement at pages 3.3-50 to 3.3-62, are satisfied at the SPA Plan level; (b) no substantial changes have occurred to the project or its circumstances since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs. §15162(a)(1)(2)); and (c) no significant new information has arisen since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs. §15162(a)(3)).

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval:

- San Diego Marsh Elder shall be used as a primary component in the creation of a 0.5 acre wetland mitigation site within open space area N1. (Plate 4). This species has been used very successfully in restoration programs and has been planted by seed as well as by container units, although seeding appears to work best. The mitigation program shall ensure that a minimum of 1:1 numerical replacement of plants impacted shall occur within the created wetland area. The mitigation area shall use site collected seed in the restoration program. Successful completion of this mitigation measure shall be the establishment and survival of not less than 15 individuals of this species at the restoration site over a 5 year period. Annual monitoring shall be conducted for a period of 5 years during the spring with reports being submitted within one month of each monitoring to the City. This mitigation measure meets the identified objectives of the EIR mitigation requirements. Mitigation at the SPA level will be required to include preserve design criteria.

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Significant Effect - Southern Portion: Loss of approximately 15 individuals of Southwestern Spiny Rush would occur within the southern portion of the project. Because of its location within wetlands, the impact is considered to be significant.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will substantially lessen the significant environmental effect as identified in Final EIR 90-02. At the SPA Plan level, the City will make a subsequent CEQA "significance" determination as to whether the southern mitigation plan reduces impacts to Southwestern Spiny Rush to below a level of significance. It is anticipated that all impacts to biological resources on the southern portion will be mitigated to below a level of significance, with the exception of impacts to the Otay Tarweed and Palmer's Grappling Hook, provided all of the following requirements are met: (a) the criteria set forth in the southern mitigation plan, as described in the Supplement at pages 3.3-50 to 3.3-62, are satisfied at the SPA Plan level; (b) no substantial changes have occurred to the project or its circumstances since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs. §15162(a)(1)(2)); and (c) no significant new information has arisen since the GDP level (CEQA Guidelines, 14 Cal.CodeRegs §15162(a)(3)).

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval:

- Southwestern Spiny Rush shall be used as a primary component in the creation of a 0.5 acre wetland mitigation site within open space area N1 (Plate 4). This species has been used very successfully in restoration programs and has been planted by seed as well as by container units, although seeding appears to work best. The mitigation program shall ensure that a minimum of 1:1 numerical replacement of plants impacted shall occur within the created wetland area. The mitigation area shall make use of site collected seed in the restoration program. Successful completion of this mitigation measure shall be the establishment and survival of not less than 15 individuals of this species at the restoration site over a 5 year period. Annual monitoring shall be conducted for a period of 5 years during the spring with reports being submitted within one month of each monitoring to the City. This mitigation measure meets the identified objectives of the EIR mitigation requirements. Mitigation at the SPA level will be required to include preserve design criteria.

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Significant Effect - Southern Portion: The western and central thirds of the southern portion each contain a dense population of Otay Tarweed. The State has listed Otay Tarweed as an endangered species. Approximately 144,000 individual Otay Tarweed plants would be lost in the southern portion of the project.

Finding: Although the mitigation measures noted below would minimize the project's impacts to Otay Tarweed, for purposes of GDP review, these impacts cannot be avoided and

would remain significant. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are been found to be feasible and are required as conditions of approval:

- Impacts to Otay Tarweed are significant and unmitigable under the proposed plan and given the population sizes, distribution, and abundance of Otay Tarweed populations on the southern development area, only a substantial project redesign would result in the mitigation thresholds identified for reducing impacts to a less-than-significant level. The Supplement calls for an 80% preservation or a minimum of 65% preservation combined with a subsequent transplant program.
- Mitigation measures for this species have attempted to incorporate concerns for long-term defensibility and viability of the proposed preservation areas. As mitigation, a reduction in the development envelope is proposed in the southwestern portion of the site and a designation of open space is proposed to include tarweed populations (see Plate 4, open spaces S1, S2, and a small portion of S3). The primary Otay Tarweed mitigation site shall be created by the expansion of open space within the south along the SDG&E right-of-way as both the right-of-way and the adjacent area to be preserved support large dense stands of Otay Tarweed. Approximately 10 acres of proposed residential development will be set aside and 5 acres of open space proposed as a development opportunity will be left as open space for a total of 15 acres, in addition to the existing SDG&E right-of-way of approximately 8 acres (not counted toward project mitigation) (open space S2). This open space expansion will provide mitigation for this species and is anticipated to be viable for the long-term as the area will be fenced to prevent encroachment by adjacent residents or by off road vehicle traffic and will be managed for the enhancement of the species. Although this species is an annual and numbers fluctuate significantly from year to year, the proposed mitigation area would include approximately 42,000 (29%) of the 144,000 plants occurring within the southern parcel. An additional 11,000 plants occur outside of the development area and within the SDG&E easement corridors. The mitigation program has specifically targeted the most extensive and robust population of tarweed for preservation and management. Rejuvenation and management of the preserved tarweed populations is to be a focus of the mitigation program. Additionally, two major groupings of Otay Tarweed on the Northern Parcel, 1) an area of approximately 10,000 plants located in the southeastern portion of the development area on the Northern Parcel (See Figure 3.3-3), and 2) an area of approximately 2,000 plants also located in the southeastern

portion of the development area on the Northern Parcel (See Figure 3.3-3) shall be placed in permanent open space. Mitigation at the SPA level will be required to include preserve design criteria for both the southern and northern populations. The mitigation program proposed for this species is outlined below; however, the impact to this resource cannot be mitigated to below a level of significance even with implementation of this mitigation program.

- The Otay Tarweed mitigation program guidelines shall require on-going funded efforts in order to ensure the long-term viability of the preserved tarweed populations. This program fails to meet the CEQA specified mitigation objectives and, as such, impacts to the Otay Tarweed remain significant. Nonetheless, the following measures reduce the significance of the impact:
 - Mitigation area S2 shall be protected by a fence as deemed appropriate by the City's biologist (Plate 4). The fence shall be gated by keyed access to allow for SDG&E to their existing utility easement. The easement area shall be fenced with barbed wire fence to restrict general access by SDG&E into the tarweed reserve areas. The periphery of the site shall be posted to notify the public of the presence of rare species.
 - The northern mitigation areas will be precisely delineated at the SPA level. Fencing of these areas will be required if any development of the north occurs in close proximity.
 - Fuel management activities shall be conducted solely outside of the mitigation area.
 - Plant materials to be used in the adjacent areas are to be of a non-invasive nature and shall be subject to review by a qualified biologist prior to approval of a specific plan. All species shall be confirmed to be compatible with the surrounding area. Native species are favored for this purpose.
 - Interior to the restoration area fence, a direct management program is to be undertaken to remove aggressive competitive exotic species including thistle and to replace these plants with compatible native elements typical of clay field environments. Weedy species are to be removed prior to their going to seed in the late spring. A seed mix of Purple Needlegrass, Blue Dicks, and Otay Tarweed is to be dispersed on the site during the month of November. Bulbous species should also be planted if available. Around the periphery, planting shall include Adolphia shrubs to further restrict access and general use of the site.

- The surrounding areas shall be drained away from the site using brow ditches and irrigation systems should be designed to prohibit any overcasting into the site.
- Intermittent sheep grazing may be used as a part of the management program for the site. Grazing shall be managed by a trained biologist to ensure that seed has been dripped prior to allowing grazing to occur. This grazing may occur for a period of up to two to four weeks per year.
- An annual monitoring and maintenance program shall be implemented to ensure that exotic weeds are kept under control and the fencing is maintained. This program shall be funded as a part of the maintenance assessment district. Work is to be undertaken only by a qualified biologist with experience in managing rare plant populations.
- A Section 2081 agreement shall be entered into by CDFG and the developer relative to management of the species within the preservation areas at the SPA Plan level of CEQA review, and consistent with the foregoing conditions.

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Significant Effect - Southern Portion: All of the estimated 10,000 individuals of Palmer's Grappling Hook onsite would be lost.

Finding: Although the mitigation measures noted below would minimize the project's impacts to Palmer's Grappling Hook, these impacts cannot be avoided and would remain significant for purposes of GDP review. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval:

- While impacts to Palmer's Grappling Hook cannot be mitigated to below a level of significance on the southern parcel, mitigation for impacts to this sensitive species is still provided. The applicant shall dedicate the area in the southeastern corner of the development area on the northern parcel which contains approximately 1,000 plants (see Figure 3.3-2) as permanent open space. If any development on the northern parcel occurs in close proximity, a minimum 50 foot buffer shall be provided, and fencing shall be placed around the entire preserve area. Plant materials used in adjacent areas for landscaping

shall be subject to review by a qualified biologist prior to approval of a specific plan. Interior to the restoration area fence, a direct management program will be implemented to remove aggressive competitive exotic species. The surrounding areas shall be drained away from the site using brow ditches.

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Significant Effect - Northern Portion: Development of the northern portion of the project would significantly disrupt the rich biodiversity of this site. The northern development could result in the loss of approximately 311 acres of Diegan coastal sage scrub, which is designated as a sensitive habitat. This is considered a significant impact due to the overall loss of this habitat in southern California and because many of the sensitive plant and animal species found onsite are concentrated in this habitat, including the California gnatcatcher and Coast barrel cactus. The gnatcatcher population on the site is part of a larger core population for the entire species and the project would cause direct impacts to 40 of the existing 69 pairs onsite.

Additional impacts in the north would occur to the cactus wren, Otay Tarweed, Palmer's Grappling Hook, and wetland habitat. Other significant impacts to wildlife include fragmentation of habitat, constricted movement corridors, and impacts from pets, lighting, noise and wild fires.

The biological significance of the northern portion of the project from a regional standpoint is acknowledged. As previously stated in the Supplement to EIR 90-02:

"The Rancho San Miguel site supports one of the richest and most diverse assemblages of unique and sensitive biological resources in Southern California. Thirteen sensitive plant species and twenty sensitive animal species are known to occur on the project site. Additionally, the site is potentially the single largest concentration of California gnatcatchers in southern California, and may support the largest known population of Otay tarweed in San Diego County. Regionally, significant populations of coast barrel cactus and San Diego cactus wren are also present onsite. Individually, many of the 33 sensitive species found on the site would be considered significant resources. The high diversity and large population sizes of these resources compounds the significance of the site for biological resources.

The location of the site is also important in that it lies within a larger block of contiguous open space to the north, east and south, and is adjacent to one of the largest populations of the federally endangered least Bell's vireo, which occurs along the upper reaches of the Sweetwater Reservoir. The northern portion of the project is contiguous with an existing gnatcatcher population occurring throughout the Sweetwater River Valley to just above Singing Hills Golf Course that likely exceeds 150 pair. This could represent as much as 10 percent of the U.S. population of gnatcatchers. The northern portion of the

site serves as a major movement corridor between the Otay Mesa area to the south and the Sweetwater Reservoir."

Because the proposed project is at the GDP level of review, a "worst case" approach was used to identify impacts to biological resources to the entire project. This approach assumed that each entire lot within the large lot development areas in the north would be fully impacted by development.

Under CEQA, the measures which could minimize identified impacts to biological resources in the northern parcel include the adoption of alternatives to the proposed project, or the adoption of a mitigation plan incorporating a redesign of the northern parcel. Two of the project alternatives identified in the Draft EIR, the biologically sensitive alternative and the south only development alternative, would eliminate all proposed development on the northern parcel. Under each of those alternatives, the entire 1,852-acre northern parcel would be part of an open space area encompassing Mother Miguel Mountain. See, Draft EIR, Section 5. These two alternatives would eliminate impacts to sensitive species and biological corridors in the northern parcel.

Aside from the identified project alternatives, a reduction in the identified impacts could take place through adoption of a mitigation plan incorporating a redesign of the northern parcel.

The mitigation plan for the northern parcel is intended to be developed further at the SPA Plan level, which is the next phase of the environmental review process for the project. At the initial GDP level of review, however, it is important to establish the mitigation criteria and planning framework to ensure that a programmatic mitigation plan is provided. In this way, the planning context is in place for completion of the mitigation plan at the SPA Plan level. The final mitigation plan will be open to subsequent review and environmental analysis by the City of Chula Vista, federal and state reviewing agencies and all other interested persons.

Finding: Although the mitigation measures noted below would minimize the project's biological impacts to the northern portion of the project site, these impacts cannot be avoided and would remain significant, at least at the GDP review level. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impacts below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

The City notes further, however, that biological impacts to the northern portion of the project will undergo further review at the SPA Plan level, at which time the City shall make a further "significance" determination concerning whether the redesign of the northern portion of the project would mitigate impacts to biological resources to below a level of significance.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval:

Commitment to Prepare Mitigation Plan: The project applicant shall prepare a SPA Plan-level mitigation plan that incorporates a redesign of the proposed development in the northern parcel, emphasizing a resource preserve design. Coordination with personnel from the U.S. Fish and Wildlife Service ("USFWS"), the California Department of Fish and Game ("CDFG"), the City of Chula Vista and the County of San Diego shall take place during preparation of this mitigation plan. The SPA Plan-level mitigation plan shall be prepared, analyzed and included in a Supplemental Environmental Impact Report ("EIR") for the applicant's SPA Plan. The City of Chula Vista, as the lead agency, shall retain final discretionary review and approval authority with respect to the mitigation plan and Supplemental EIR for the SPA Plan.

The SPA Plan-level mitigation plan shall not be approved prior to May 1, 1994, the date by which the South County Natural Community Conservation Plan (NCCP) is anticipated to be adopted by the City of Chula Vista and approved by the CDFG and USFWS. In the event that the South County NCCP is not adopted and approved by the City of Chula Vista, the CDFG and the USFWS on or before May 1, 1994, the project applicant and the City have agreed to pursue completion and approval of the South County NCCP beyond this expiration date; however, after the expiration date, the applicant may make a request to the Chula Vista City Council to consider allowing the applicant to proceed with a SPA-level mitigation plan. The City acknowledges that the foregoing time period relating to the SPA-level mitigation plan does not apply to or restrict the applicant's processing of a SPA Plan for the southern portion.

The City further acknowledges that:

- (i) In the event the northern portion of the project is subsequently dedicated as permanent natural open space or included in a mitigation bank, the SPA Plan-level mitigation plan and the South County Natural Community Conservation Plan are not necessary or required for the northern portion or any other subsequent discretionary project approval.
- (ii) The SPA Plan-level mitigation plan shall be considered prior to annexation of the northern portion into the Chula Vista corporate boundary.
- (iii) Preparation of the SPA Plan-level mitigation plan shall be a condition of approval of the San Miguel Ranch GDP, consistent with the criteria set forth below.

Criteria to be Used in Evaluating the Mitigation Plan: The South County NCCP, if completed and approved, may preclude development of the northern parcel, or may provide for different criteria and standards for the preservation and enhancement of on-site biological resources. If it does not, the criteria set forth below shall be used in creating the SPA Plan-level mitigation plan.

In preparing the SPA Plan-level mitigation plan, the project applicant shall use the guidelines set forth below as the applicable criteria for mitigating impacts to the identified biological resources in the northern parcel. The following criteria shall constitute the

minimum level of preservation required for the designated species in preparing the SPA Plan-level mitigation plan. The applicant also specifically acknowledges that the actual level of mitigation could be as much as 100 percent preservation for some species in order to achieve a finding that the impacts fall below a level of significance under CEQA and that the City may require this level of mitigation. This significance determination shall be made a part of the Supplemental EIR for the applicant's SPA Plan. The City of Chula Vista acknowledges that the CDFG may not find the criteria stated below to be acceptable at the SPA level.

- (i) **Diegan coastal sage scrub** Impacts to onsite coastal sage scrub cannot be mitigated with the project as proposed. Sensitive species that are a part of this habitat onsite include important populations of coast barrel cactus, Munz's sage, California gnatcatcher and cactus wren. These species are concentrated in the coastal sage scrub habitat designated for development under the project, as proposed. Any loss of coastal sage scrub shall require mitigation onsite through the creation of open space preserves at a mitigation ratio of 4:1, and subject to a long term maintenance and management program. Of the northern parcel, no more than 15% of the onsite coastal sage scrub shall be impacted by development and at least 85% shall be used for provision of onsite mitigation or for mitigation purposes by others. This measure will reduce, but not completely avoid, significant and unmitigable impacts. Reduction to insignificance can only be attained through on-site preservation of all coastal sage scrub on the northern parcel. While the range of potential on-site and off-site mitigation measures is greater than that proposed for the southern parcel, it is justified by the greater bio-diversity on the northern parcel, which makes this area a much more important regional location for Diegan coastal sage scrub habitat. Mitigation at the SPA level will be required to include preserve design criteria.

- (ii) **Wetlands** Impacts to wetlands cannot be mitigated with the project as proposed. The wetlands occur within the site drainages of the north parcel. At the GDP review level, the worst case scenario for impacts was assumed within large lot development areas in the northern parcel which included the assumption that each entire lot

would be impacted by development. The Draft EIR specifically notes that impacts in the northern parcel can be reduced significantly, and that impacts must be avoided to the extent practicable. The reduction of impacts would occur during the SPA Plan review level, and any impacts may require a 1603 agreement and possibly a 404 permit. Mitigation at the SPA level will be required to include preserve design criteria. Until these minimization measures are resolved at the SPA level, a specific revegetation plan cannot yet be developed.

The recommended mitigation replacement ratio is a minimum of 1:1. This ratio is based upon the generally low to moderate quality of wetland habitats being impacted, and is not inconsistent with acceptable mitigation measures for impacts to similar quality wetlands in southern California. The ratio is considered the minimum to meet the "no net loss" criteria for both federal and state reviewing agencies.

- (iii) Non-native grassland See below for mitigation criteria relating to Palmer's Grappling Hook and Otay Tarweed.
- (iv) California gnatcatcher Impacts to the California gnatcatcher cannot be mitigated with the project as proposed. Mitigation for losses of the California gnatcatcher can be accomplished only through dedication of important tracts of the species' habitat into natural open space. These tracts must be linked in a network to allow for the birds' dispersal, maintenance of populations sufficiently large to be self-sustaining, and population recovery after the fires which inevitably sweep through native scrub. Because Rancho San Miguel is a major part of a core habitat, reductions to below a level of significance can be accomplished only through a project redesign that leaves a significant majority of the pairs and their habitat in natural open space. Any losses of existing pairs, occupied gnatcatcher habitat, or unoccupied potential breeding gnatcatcher habitat shall require mitigation onsite through the creation of permanent open space preserves at a preservation ratio of 2:1, and subject to a long

term maintenance and management program. Of the northern parcel, no more than 20% of the existing pairs, 20% of the occupied gnatcatcher habitat, and 50% of the unoccupied potential breeding gnatcatcher habitat shall be impacted by development. At least 80% of the existing pairs, 80% of the occupied gnatcatcher habitat, and 50% of the unoccupied potential breeding gnatcatcher habitat shall be used for the provision of onsite mitigation or for mitigation purposes by others. Mitigation at the SPA level will be required to include preserve design criteria. This measure will reduce, but not completely avoid, significant and unmitigable biological impacts. Reduction to insignificance can only be attained through on-site preservation of all existing pairs, occupied gnatcatcher habitat, and unoccupied potential breeding gnatcatcher habitat on the northern parcel. While this mitigation ratio of 2:1 is greater than that proposed for the southern parcel, it is justified by the greater bio-diversity on the northern parcel, which makes this area a much more important regional location for California gnatcatchers.

(v) Cactus wren

Impacts to the cactus wren cannot be mitigated with the project as proposed. To reduce, but not completely avoid significant and unmitigable impacts, the project must be redesigned to impact no more than one pair of cactus wren. All remaining occupied cactus thickets containing six pairs of cactus wrens shall be placed within contiguous biological open space. In addition, cactus stands which are to be impacted by the project will be transplanted to expand and enhance the cactus wren populations in areas adjacent to existing populations in the north. To determine the appropriate mitigation area, a qualified biologist shall monitor the activity patterns of the impacted cactus wren and in the remaining territories in the north to determine boundaries of the home ranges and to characterize the important elements of home range usage. Subsequent to the restoration, the mitigation area shall be monitored for a period of 5 years to ensure successful establishment of the habitat. Existing occupied thickets lie in the west

central and north portions of the north section. Mitigation at the SPA level will be required to include preserve design criteria.

(vi) Otay Tarweed

Loss of such a large population of Otay Tarweed cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, a minimum of 80 percent of this plant species should be retained in open space, including the areas supporting the largest number of Otay Tarweed. For impacts which go beyond the 20 percent recommended above, a revegetation/restoration program could be implemented which would examine the potential for re-introducing this species into disturbed areas within proposed open space for the project. Any restoration efforts would require working closely with the CDFG. A minimum of 65 percent of the Otay Tarweed shall be retained *in situ* in open space, even if a restoration program is implemented. Such a redesign would reduce impacts to this species to below a level of significance. No revegetation or restoration of the Otay Tarweed should be considered as a mitigation option until it can be demonstrated that such measures will produce long term populations. Mitigation at the SPA level will be required to include preserve design criteria.

Regardless of the final preserve design for the Otay Tarweed, the two populations of 10,000 and 2,000 plants required to be preserved as part of the Southern Mitigation Plan shall remain within the preserve area for the Northern Mitigation Plan and will be included within the plant count in order to ensure a minimum of 65% of the Otay Tarweed is retained *in situ* in open space. An additional 15% shall be retained either *in situ* or as part of an Otay Tarweed restoration plan. This will result in onsite preservation of at least 80% of the Otay Tarweed for the northern portion. Assuming a 24,000 plant count in the north, a preservation level of 65% would require 15,600 plants to be preserved in situ, and after allowing for the 12,000 plants previously committed, an additional 3,600 plants would need

to be preserved *in situ* as part of the northern mitigation plan.

(vii) Coast barrel cactus

Loss of such large populations of barrel cacti cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, the areas supporting the largest numbers of barrel cacti should be excluded from the development area. These areas are in the west-central and northwest parts of the north section. Project redesign to avoid these areas would reduce impacts to below a level of significance. A minimum preservation level of 60% *in situ* and transplantation of the remaining cacti to proposed open space areas on-site shall be required. Analysis of whether impacts are reduced to below a level of significance shall be undertaken prior to SPA review. Mitigation at the SPA level will be required to include preserve design criteria.

(viii) Palmer's Grappling Hook

Due to the preservation of virtually all Palmer's Grappling Hook on the northern parcel as partial mitigation for impacts to this species on the southern parcel, no further mitigation is necessary related to the northern parcel.

(ix) California Adolphia

Significant impacts to this plant cannot be mitigated with the project as proposed. The loss of significant populations of this plant can be reduced only by excluding the important plant patches from the development area. The project should be redesigned to protect at least 50 percent in biological open space. Such redesign would reduce impacts to below a level of significance. Mitigation at the SPA level will be required to include preserve design criteria.

(x) Marsh Elder

Wetlands onsite should be avoided to the extent practicable. Mitigation at the SPA level will be required to include preserve design criteria. Unavoidable impacts could be mitigated through a revegetation program.

(xi) Spiny Rush

Wetlands onsite should be avoided to the extent practicable. Unavoidable impacts to spiny rush could be mitigated through enhancement of wetland areas to include revegetation of Spiny

Rush. Mitigation at the SPA level will be required to include preserve design criteria.

Additional Mitigation Measures: In addition, the mitigation plan shall incorporate the following general mitigation measures to further reduce impacts to the identified biological resources upon implementation of a redesign of the northern parcel.

The potential loss or degradation of wetland habitat is considered significant by CDFG. Any filling of wetlands would require a 1603 agreement between the project applicant and CDFG. A pre-discharge Notification would have to be submitted to the Army Corps of Engineers (ACOE) if statutory thresholds are exceeded, and a 404 permit may be required.

A no net loss of wetland habitat is required by CDFG and ACOE. Impacts to wetlands must be avoided to the extent practicable. Impacts within the project can be reduced by placement of wetlands occurring within proposed residential lots in open space easements and providing adequate buffers. Where impacts cannot be avoided, every effort should be made to minimize these impacts. All unavoidable impacts shall be mitigated by onsite creation of wetland habitat. Drainages that receive run-off from housing may be considered for the location of created wetlands. Minimization of impacts could be accomplished with a comprehensive program to replace and enhance wetland habitat under a wetland revegetation plan created by a wetland revegetation specialist and approved by CDFG and ACOE, if necessary, and the City of Chula Vista. Total created wetland would have to be at a replacement ratio of a minimum of 1:1.

Graded areas along roadways shall be hydroseeded with native plant species consistent with surrounding natural vegetation. This would help to minimize erosion and runoff, as well as improve the area aesthetically by making it visually compatible with adjacent natural areas. As part of this effort, a revegetation plan shall be developed with the help of a revegetation specialist with experience in coastal sage scrub and similar habitats. The Revegetation Plan shall be prepared by the applicant and a qualified biologist.

The use of non-invasive plants in landscaping areas adjacent to open space will be required for all areas outside of actual lot boundaries. Additionally, homeowners will be encouraged to use non-invasive species in their landscaping adjacent to open space.

Iceplant (*Carpobrotus aequilateralis* or *C. edulis*) shall not be used in lieu of fire-resistant native vegetation due to the slope failures associated with it. Importation of this plant introduces fire ants, which are known to reduce native harvester ant population through competition and displacement. In addition, fire ants are unpalatable to the San Diego horned lizard and their introduction would reduce horned lizard populations.

Grading activities within 100 feet of areas of identified California gnatcatcher pairs, or their associated coastal sage scrub habitat, shall not be conducted during the breeding or nesting season (mid-March through July annually). Grading activities shall be supervised by a biologist.

Site preparation activities, especially staging area operations and maintenance rows for heavy machinery, shall be restricted to areas not being placed in open space. Carelessness on the part of equipment operators can result in the destruction of areas that have been designated for preservation. Areas adjacent to open space shall be fenced. A debris fence shall be installed prior to excavation in areas where grading is up-slope of sensitive biological habitats. These recommendations should be incorporated into a construction monitoring program approved by the City of Chula Vista.

Compliance with state regulations (California AB 3180) requiring monitoring programs for development projects would require satisfaction of the following two objectives:

The final site plan must be reviewed by a qualified biologist for the City of Chula Vista and by CDFG for compliance with these mitigation measures and must also be approved by the City Council, upon recommendation of the Planning Commission, in conjunction with the Sectional Planning Area (SPA) Plan.

Each phase of project implementation must be reviewed by a qualified biologist for compliance with the mitigation measures required for that phase, and a report must be filed prior to notice of completion.

NCCP Requirement: The mitigation plan shall be consistent with the sub-regional Natural Communities Conservation Planning Program (NCCP) for coastal sage scrub in southern San Diego County, otherwise known as the South County NCCP, unless the applicant is granted permission by the City Council to proceed with the SPA-level mitigation plan pursuant to the procedure established in Sections 1 above (after May 1, 1994).

The project applicant, the City of Chula Vista and the County of San Diego have each entered into "Enrollment Agreements" with the CDFG for the South County NCCP Plan. This Plan, which is authorized by state law (Fish and Game Code §§2800 *et seq.*), is sponsored by the California Resources Agency and the CDFG and will be implemented in cooperation with the USFWS. Close cooperation between the three agencies in the NCCP process is ensured through a Memorandum of Understanding entered into between the agencies on December 4, 1991.

The South County NCCP Plan is intended to identify and provide for the sub-regional protection and perpetuation of coastal sage scrub habitat and designated "target" species supported by that habitat while, at the same time, allowing compatible and appropriate development and growth, as set forth in Section 2805 of the Fish and Game Code. The

purpose for enrolling in this plan is to: (a) complete the field surveys, research and planning necessary to prepare a long-term habitat management plan within the designated preserve area; and (b) protect enrolled coastal sage scrub habitat during the 18-month planning period for the plan, which began on May 1, 1992.

The South County NCCP Plan is also intended to be consistent with the findings and declarations contained in the enabling legislation. These findings declare that the NCCP process will achieve a number of significant public benefits, including: (a) promoting coordination and cooperation among public agencies, landowners and other private interests; (b) providing a mechanism for landowners and development proponents to effectively participate in the resource conservation planning process; (c) providing regional planning focus which can effectively address cumulative impact concerns, minimize wildlife habitat fragmentation and promote multiple species management and conservation; (d) providing an option for identifying and ensuring appropriate mitigation for impacts on fish and wildlife; (e) promoting the conservation of broad based natural communities and species diversity; and (f) providing for efficient use and protection of natural and economic resources while promoting greater public awareness of important elements of the state's critical resources.

To implement these legislative findings, the planning process will focus on preparation and approval of the South County NCCP Plan to ensure the long-term protection and perpetuation of a sufficient amount of coastal sage scrub habitat within a designated preserve area to ensure the long-term survival of designated "target" species associated with that habitat. The target species for coastal sage scrub include the California gnatcatcher, cactus wren and orange-throated whiptail.

The applicant has already completed biological field surveys and is continuing to study the northern parcel as required by the Scientific Review Panel (SRP), which was formed in connection with the recently enacted NCCP legislation. Any additional biological field surveying will be consistent with those guidelines to be applied to the property and approved by the SRP.

The South County NCCP Plan will include the following components: (a) a sub-regional habitat description and analysis (with clearly mapped boundaries); (b) a defined preserve area; (c) long-term conservation and management strategies; and (d) techniques for implementation of coastal sage scrub habitat protection measures, including a mitigation monitoring program that complies with CEQA.

The City of Chula Vista shall review the South County NCCP Plan as it applies to the applicant's northern parcel concurrent with its approval of the SPA Plan for the Northern Parcel. During that review process, the City will consult with the County of San Diego, California Department of Fish & Game (CDFG) and U.S. Fish & Wildlife Service (USFWS) to the extent that the approved NCCP provides for such review. The City Council shall make the final determination that the proposed SPA plan for the Northern Parcel is inconsistent with the approved South County NCCP.

The review and final approval process for the South County NCCP Plan is anticipated to take place within a 24-month NCCP planning period, which commenced on May 1, 1992

and expires on May 1, 1994. After the expiration date, the applicant may make a request to the Chula Vista City Council to consider allowing the applicant to proceed with the SPA-level mitigation plan.

D. ARCHAEOLOGY

Significant Effect: The archaeology study on the San Miguel Ranch site determined that eight important sites will be directly impacted by the proposed project. Another eight sites will be indirectly impacted resulting from residential use of project open space areas. The impacts to these 16 sites are significant.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The significant impacts to archaeological resources can be reduced to below a level of significance by implementation of the following mitigation measures. These mitigation measures are found to be feasible and are required as conditions of approval:

- The grading and brushing of the project and any related off-site utility improvements shall be monitored by a qualified archaeologist to ensure that any significant deposits or artifacts which were not identified during the evaluation phase may be analyzed prior to the destruction of the sites.
- Any sites which were masked or buried and were not previously discovered shall require evaluation. In the event that any new or previously undetected portions of a site are encountered during the grading of the project or related improvements, the grading shall be halted by the monitoring archaeologist, and the site shall be evaluated for importance. If the site is found to be important, and the impacts will be significant, those impacts must be mitigated to a level of insignificance through either a data recovery program or preservation.
- Any testing programs and mitigation measures initiated during mitigation monitoring must be cleared through the City of Chula Vista.
- Prior to the initiation of any future projects stemming from this EIR for Rancho San Miguel, the testing programs which were either abbreviated or suspended during the EIR process, as discussed under Impacts in this section, must be completed in accordance with the guidelines of the City of Chula Vista (refer to the technical report to ascertain which programs must be

completed). The completion of the testing is not itself a condition of mitigation, and therefore, the timing on this task is not dictated by CEQA.

- The impact summary provided in Table 3.4-2 of Draft EIR 90-02 indicates that 35 sites will be directly impacted and 8 sites will be indirectly impacted. Of these, eight sites will require mitigation measures to reduce the significant direct impacts and eight sites will require measures to reduce the significant indirect impacts. The 16 sites which will require mitigation measures are:

SDi-4524*	SDi-4525*
SDi-4526*	SDi-4529*
SDi-4530*	SDi-6957*
SDi-8658*	SDi-12,049
SDi-12,054	SDi-12,058
SDi-12,061	SDi-12,063*
SDi-12,064*	SDi-12,066*
SDi-12,084H*	SDi-12,085H

- Of the 16 sites listed above which have been evaluated as important resources, those noted with an asterisk have the additional attribute of being located within the Bonita-Miguel Archaeological District. This district was formed on the basis of several archaeological surveys undertaken for the Miguel Substation and related transmission line projects, and was proposed by the Bureau of Land Management. The district was determined to be eligible for the National Register of Historic Places, although the district has not been formally accepted by the Keeper of the Register. While the status of the area as an archaeological district does not imply that a different set of evaluation criteria are used to determine the importance of the sites within the district, it does emphasize the unique pattern of sites within the district area. Impact analysis and mitigation measures should consider the relationship of the sites within the district; however, unless federal funds are involved in the project, CEQA and local city guidelines do not require special treatment of sites found to be eligible for nomination to the National Register.
- The sites which will be directly impacted must be subjected to a data recovery program to achieve the mitigation of impacts. Those sites which will require data recovery programs due to direct impacts include the following:

SDi-4529	SDi-12,058	SDi-4530	SDi-12,066
SDi-6957	SDi-12,084H	SDi-12,054	SDi-12,085H

- The data recovery programs shall consist of the following:
 - A detailed collection of information from the surface and subsurface artifact deposits within the framework of an approved research design. This design shall include individual sections for each site, as the sites do not necessarily include identical or directly associated resources. Educational uses for data recovered shall be considered in the design of the data recovery program.
 - The research design shall address the determination of cultural affiliation and site function(s), feature analysis, tool typology analysis, and regional research issues regarding subsistence patterns, lithic manufacture and maintenance patterns, trade, and intrasite/intersite development.
 - The historic sites shall require documentation of the line of ownership and periods of occupation, as well as data recovery to collect artifacts which define the range of historic activities. Where standing structures are present, an architectural assessment will be needed.
 - The information from each site shall be gathered by conducting a statistical sampling program based on a sample size of two to five percent of the site area. As an alternative, a stratified random sample could be conducted to focus greater attention on elements of the resources which contain greater potential to address the questions presented in the research design.
 - The data collected as part of the implementation of the research design shall be presented in a technical report, with appropriate interpretations and analyses, and submitted for review by the City.
 - The eight sites which will be indirectly impacted and require mitigation are those which include elements that could be removed or damaged by site visitation. For instance, at Site SDi-4524, the presence of lithic production loci which are relatively undisturbed and which contain elements of the entire prehistoric lithic manufacturing process is very rare in this region. Even casual pedestrian visitation through such a locus could disturb the pattern of available data, and the removal of even one tool would seriously impact such a valuable surface expression. The increased presence of residents drawn by the new development would eventually facilitate the degradation of significant elements of the surface aspects of these sites. The sites which would be indirectly impacted through pressures associated with increased pedestrian or equestrian traffic are:

SDi-4524
SDi-4526
SDi-12,049
SDi-12,063

SDi-4525
SDi-8658
SDi-12,061
SDi-12,064

- Mitigation measures for these sites shall include:
 - A preservation plan shall be developed in sufficient detail to ensure that all sensitive aspects of the sites are considered. The completion of the testing program for many of these sites prior to the development of the preservation program will be valuable to the understanding of the sites and the sensitive elements included in each.
 - The dedication of open space easements to protect these sites from encroachment associated with the development or related actions in the near future, as well as any actions in the future which would include land alteration.
 - The configuration of the easements shall be designed and dedicated prior to any future development processing following this EIR. The proposed open space areas designated for the project cover an area which encompasses the easements for these sites.
 - Each easement shall include a 100-foot buffer area and must be permanently fenced with six-foot-high, chain link fence. The permanency of the fences shall be assured through the placement of the bases of the fence poles in concrete, and the fencing shall be vinyl coated. This will essentially preclude any development within 100 feet of the sites, while the fence will deter most passersby from encroaching into the sites. The fencing installation shall be conducted under the supervision of an archaeologist to ensure that the resources are not damaged.
 - The easements shall be granted prior to any further land development projects, such as SPAs, and fences must be placed around all of the sites identified above before any construction can begin anywhere within the project boundaries.

E. PALEONTOLOGY

Significant Effect: Impacts to paleontological resources occur when earthwork activities cut into geologic formations and destroy the buried fossil remains. The project area is underlain by a variety of formations, some which are known to contain fossils in the surrounding area (Proctor Valley/Eastlake/Bonita). Based on a review of the concept plan, it appears that extensive development would occur in those areas underlain by formations

which have a moderate to high potential to contain paleontological resources, including the Otay and Sweetwater formations. Mass excavations in these formations would result in insignificant impacts to paleontologic resources.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts to paleontological resources to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented during project grading:

- Prior to issuance of development permits, the project applicant shall present a letter to the City of Chula Vista indicating that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques.)
- A qualified paleontologist shall be at any pre-grade meetings to consult with grading and excavation contractors. At this time the units (mudstone and gritstone) of the Sweetwater formation should be located for use by the paleontologist.
- A paleontological monitor shall be onsite at all times during the original cutting of previously undisturbed sediments of highly sensitive formations (i.e. Otay and Sweetwater-mudstone portion only) to inspect cuts for contained fossils.

A paleontological monitor shall be onsite on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive formations (i.e. debris flow deposits and Sweetwater-gritstone portion only) to inspect cuts for contained fossils.

A paleontological monitor shall be onsite on at least a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity formations (i.e. Santiago Peak volcanics-meta-sedimentary portion only) to inspect cuts for contained fossils.

A paleontological monitor shall periodically inspect original cuts in deposits with an unknown resource sensitivity (i.e. stream/quaternary deposits).

In the event that fossils are discovered in unknown, low or moderately sensitive formations it may be necessary to increase that per day field monitoring time. Conversely, if fossils are not being found then the monitoring should be reduced.

A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e. Santiago Peak Volcanics-meta-volcanic portion).

A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil material. The paleontological monitor shall work under the direction of a qualified paleontologist.

- When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete large mammal skeleton) may require an extended salvage time. In these instances the paleontologist (or monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary, in certain instances, to set up a screen-washing operation at the site.
- Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted and cataloged.
- Prepared fossils along with copies of all pertinent field notes, photos, and maps shall then be deposited (with the owners' permission) in a scientific institution with paleontological collections such as the San Diego Natural History Museum.
- A final summary report shall be completed which outlines the results of the mitigation program. This report shall include discussion of the methods used, stratigraphic section exposed, fossils collected and significance of recovered fossils.
- Selected roadcuts or large finished slopes in areas of interesting geology (e.g. Highway 125) shall be left unlandscaped if they would not be subject to erosion so they can serve as important educational and scientific reference exposures for future generations.

F. GEOLOGY/SOILS

Significant Effect: The project site could be subject to a seismic event with maximum credible magnitude of 6.7 on the potentially active La Nacion fault, located approximately four miles away. Such an event could result in significant impacts as the result of ground acceleration, liquefaction (in the event saturated alluvial materials are present), or slope instability due to reactivating existing landslides or the presence of weak shared clay seams and bentonite layers within the Sweetwater and Otay formations.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts associated with seismicity to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- All proposed structures and pertinent facilities shall comply with guidelines of the Uniform Building Code and any applicable state or local construction standards, as well as future geotechnical studies.
- Appropriate grading and construction measures related to seismic loading shall be used.
- Appropriate fill and structural design shall be used.
- Surficial materials including alluvium, fill and topsoils shall be excavated to firm natural ground and either replaced with approved fill or recompacted, depending on direction from the geotechnical consultant.
- The suitability of debris flow deposits to support structures, and the likelihood of future failures in the head areas of debris flows shall be investigated by a qualified geotechnical consultant as soon as grading plans are available.
- Slope stabilization methods recommended by a qualified geotechnical consultant shall be used.
- All slope designs, cuts and fills, erosion control, surface and subsurface drainage, and foundation and retaining wall design shall conform to the recommendations of the geotechnical consultant. Specifically, this would include the use of maximum 2:1 (horizontal to vertical) ratio cut and fill slopes. Cut and fill slopes in the Sweetwater Formation shall not exceed 30 feet in height; those in the Otay Formation shall not exceed 50 feet for fill slopes. These measures shall be implemented in accordance with the City's requirements for landform grading.
- Settlement monuments shall be established throughout areas underlain by compressible materials, especially where construction will take place over debris flows. The monuments shall be monitored for vertical movements until significant movement has ceased.
- A geotechnical investigation supplementing the 1986 preliminary soils and geotechnical investigation shall be prepared prior to approval of the project Tentative Map. Supplemental geotechnical studies shall be

conducted both prior to and during grading activities, and shall analyze such issues as the site-specific placement of structures and sub-surface drainage facilities. The report shall consider seismic impacts on these facilities and shall make recommendations pertaining to seismic impacts. These recommendations shall be incorporated into final project design.

* * * *

Significant Effect: Expansive soils are present at the site. These soils could potentially result in significant impacts to structures, building foundations, underground utilities and roads.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts associated with the presence of expansive soils to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- Clayey subsoils shall be excavated and, if used in fills, be placed at least three feet below the proposed finish pad grade and at least 12 inches below street subgrade.
- Foundation for single- or two-story structures located entirely in very low to low expansion natural ground, or entirely in fill soils that do not vary more than 20 feet in depth at any point beneath the structure shall be at least 12 inches in width and extend at least 12 inches below lowest adjacent pad grade. Recommendations for foundations constructed in fill soils having a differential thickness greater than 20 feet shall be evaluated separately for each structure.
- If complete removal of expansive soils is impractical, measures recommended by a qualified geotechnical consultant to control such soils shall be used. Such measures may include moisture control or addition of chemical stabilizers.
- Structural design that incorporates deep footings and reinforced floor slabs shall be used.
- The supplemental geotechnical investigation shall consider expansive-soil impacts and shall make recommendations pertaining to such impacts. These recommendations shall be incorporated into final project design.

* * * *

Significant Effect: Grading activities, vegetation removal and generating cut-and-fill slopes would increase the potential for erosion at the project site. Potential erosion impacts include damage to cut-and-fill slopes, exposure of underground facilities or foundations, and increased siltation downstream from stormwater runoff.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts associated with erosion to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- Clayey subsoils shall be excavated and, if used in fills, be placed at least 3 feet below the proposed finish pad grade and at least 12 inches below street subgrade.
- Foundations for single- or two-story structures shall be located entirely in very low to low expansive natural ground or entirely in fill soils that do not vary more than 20 feet in depth at any point beneath the structure should be at least 12 inches in width and extend at least 12 inches below lowest adjacent pad grade. Recommendations for foundations constructed in fill soils having a differential thickness greater than 20 feet shall be evaluated separately for each structure. (Geocon)
- Applicant shall use measures recommended by a qualified geotechnical consultant to control expansive soils where complete removal would be impractical. Such measures would include moisture control or addition of chemical stabilizers.
- Applicant shall incorporate structural designs that include deep footings and reinforced floor slabs.
- All grading and site preparation shall be performed in accordance with the "Recommended Grading Specifications" contained in Appendix C of the Geocon Report (1986) and the City of Chula Vista Grading Ordinance. (Geocon)
- It is recommended that a preconstruction conference be held at the site with the owner or developer, contractor, civil engineer, and soil engineer in attendance, to discuss special soil handling and/or grading plans. (Geocon)
- It is recommended that the outer zone of fill slopes equal to at least 15 feet or the height of the slope, whichever is less, be composed of well compacted granular material. All fill slopes should be backrolled at maximum 4-foot fill height intervals during construction and each fill slope should be track-walked upon completion. (Geocon)

- Applicant shall use erosion-controlling and slope stabilization measures both during and after completion of construction activities. These may include methods such as revegetation, detention structures, retaining walls, temporary slopes or buttressing, brow ditches, and work restrictions during inclement weather.
- Applicant shall designate material disposal methods, locations and haul routes, and coordinate with and obtain approval by appropriate regulatory agencies.
- Applicant shall treat compacted areas (e.g., scarification) to facilitate revegetation and reduce erosion potential.
- Proposed project design, grading, and construction activities shall conform to all pertinent standards of the County of San Diego General Plan, Grading Ordinance, and all other applicable guidelines.
- The supplemental geotechnical investigation shall consider erosion impacts and shall make recommendations pertaining to such impacts. These recommendations shall be incorporated into final project design.

* * * *

Significant Effect: The project results in potentially significant impacts regarding compaction and settlement of soil.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts associated with compaction and settlement of soil to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- Alluvial/colluvial soils shall be entirely removed and recompacted in all areas where structural fill is proposed. It is estimated that approximately 10 feet of removal and recompaction of debris flow deposits will be necessary. Unsuitable topsoils shall also be removed and properly recompacted during grading (Geocon).
- The geotechnical consultant shall observe grading operations and test all structural fills for relative compaction (Geocon).
- The geotechnical consultant shall observe all cut slopes during grading to ensure conformity with anticipated subsurface conditions.
- The geotechnical consultant shall direct inspections and testing of all grading materials and procedures.

- All fill materials used for proposed grading and construction activities shall meet the specifications of the geotechnical consultant in terms of composition, size, distribution, moisture content, compaction, depth, and application methodology.
- Cut and fill transition zones associated with overlying structures shall be designed pursuant to direction by the geotechnical consultant. Specifically, cut areas beneath structures should be undercut to a minimum depth of one foot below the deepest utility or three feet total, whichever is greater.
- Site preparation will begin with removal of all deleterious matter and vegetation. The depth of removal shall be such that material to be used in fills is free of organic matter. Material generated during stripping operations and/or site demolition shall be exported from the site (Geocon).
- The site should then be brought to final subgrade elevations with structural fill compacted layers. In general, native soils are suitable for reuse as fill if free from vegetation, debris, and other deleterious matter. Layers of fill should be no thicker than will allow for adequate bonding and compaction. All fill (including backfill and scarified ground surfaces) should be compacted to at least 90 percent of maximum dry density at optimum moisture content or above, as determined in accordance with ASTM Test Procedure D1557-70, Method A or C (Geocon).
- An allowable bearing capacity of 2,000 psf may be used for foundations constructed as recommended above. The allowable bearing capacity is for dead plus live loads and may be increased by one-third for transient loads due to wind or seismic forces (Geocon).
- Concrete slabs located entirely on natural ground or on compacted fill which does not exceed 20 feet in thickness should have a nominal thickness of 4 inches and be underlain by at least 2 inches of clean sand. Reinforcement should consist of 6 x 6 - 6/6 welded wire mesh throughout. In areas of deeper fills, where fill depths exceed 20 feet, the slab reinforcement should be designed by the project structural engineer or architect. It is recommended that, as a minimum, No. 3 bars placed 18 inches on center in both directions be utilized (Geocon).
- Foundation excavations and prepared subgrades shall be wetted as necessary to maintain compaction moisture contents (Geocon).
- Retaining wall foundations bearing in undisturbed formation soils may be designed for an allowable soil bearing pressure of 3,000 psf at a depth of 12 inches below lowest adjacent finish grades. Foundations

placed in properly compacted fill soils may be designed for a soil bearing pressure of 2,000 psf at a depth of 12 inches below lowest adjacent finish grades. Reinforcement of such foundations should follow the recommendations of the project structural engineer and should be reviewed by the geotechnical engineer for compliance with the intent of recommendations for structures on fill presented above. Where the retaining wall will be restrained from lateral movement at the top, a uniform pressure of $7H$ psf (where H = height of wall in feet) should be added to the above active soil pressures. The above recommendations assume a drained backfill condition with no surcharge loading (Geocon).

- Lateral loads may be resisted by "passive" earth pressure. The passive earth pressure against shallow spread-type footings and/or walls poured near undisturbed natural soils or in contact with properly compacted backfill, may be considered equal to the forces exerted by a fluid of 300 pcf unit weight. A coefficient of friction of 0.4 may be used between the bases of footings and slabs of soil for computing resistance to sliding (Geocon).

* * * *

Significant Effect: The project results in potentially significant impacts regarding reactive soils.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts associated with reactive soils to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- Overexcavate unsuitable base materials and replace with approved and properly compacted structural fill.
- Use corrosion resistant steel and cement in areas where complete removal is impractical.

* * * *

Significant Effect: The project results in potentially significant impacts regarding shallow bedrock.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts associated with shallow bedrock to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The applicant shall utilize standard ripping and excavation techniques for shallow bedrock subsurfaces.
- The applicant shall use and/or dispose of oversize rock materials in accordance with direction by the geotechnical consultant. Generally, this would entail methods such as offsite disposal, replacement in deeper onsite fills, crushing, or use in landscaping efforts of all rock exceeding whatever is determined by the geotechnical consultant.
- If explosives are necessary for excavation activities, the applicant shall use them in accordance with all appropriate state and local guidelines. These would include measures to safeguard explosives in approved storage facilities, ensure safe operation and handling by trained personnel, and protect sensitive receptors (if any) from potential noise and vibration effects.

* * * *

Significant Effect: The project results in potentially significant impacts regarding groundwater seepage.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential impacts associated with groundwater seepage to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- Where moisture sensitive floor coverings are planned, the applicant shall utilize an impervious membrane vapor barrier and a 2-inch layer of clean sand placed between the base of the slab and the membrane to reduce shrinkage cracking and allow proper curing of the concrete. Crack control and construction joints shall be provided for large concrete slabs, in accordance with the recommendations of the project architect (Geocon).
- The applicant shall coordinate with the appropriate Regional Water quality Control Board office when disposing of any groundwater from any necessary dewatering operations.

- The applicant shall ensure that surface drainage is diverted into control structures to reduce seepage impacts.

* * * *

G. HYDROLOGY

Significant Effect: Development of the project site would create large impervious surfaces such as roads, walkways, buildings, and parking lots. Runoff would occur more rapidly, and the peak runoff discharge from the site would be higher for a given rainfall event than under the present undeveloped conditions.

Basin headwater areas tend to possess slope and channel gradients steeper than those in downgradient areas, and therefore, increases in overall impervious cover results in larger, more frequent, and higher velocity discharges into downstream channels. Detrimental consequences could include increased peak discharges, possible flooding, and possible scour of the minor and major drainage ways downstream of the development.

The northern half of the northern portion of the project is in a watershed that drains into Sweetwater Reservoir. The project may affect the quantity and quality of stormwater runoff into the reservoir. Because Sweetwater Reservoir is a storage facility for drinking water supplies, the project raises particular concerns in that it may affect water quality within the reservoir.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the hydrology impacts to below a level of significance:

- A detailed drainage report and plan shall be prepared for the entire project prior to SPA Plan approval. In the event that a SPA Plan for the southern portion only is being considered, such plan for the northern portion of the project will not be required.
- The detailed drainage report and plan shall contain the following design components and hydrological data:
 - The project's urban stormwater runoff system shall be designed to convey runoff away from developed areas.
 - The design shall route runoff from the contributing sub-basins in such a way as to avoid compounding peak discharges.

- The design shall ensure that any increase in stormwater flow velocity will not result in channel scour in natural or earthen channels (e.g., by routing runoff to man-made retention ponds located within major drainage ways and then, following the storm event, releasing the retained water at a controlled rate).
- The design shall provide for sediment control, to the satisfaction of the City Engineer.
- The detailed drainage report and plan shall be subject to the approval of the City Engineer.
- All stormwater runoff facilities shall be designed in accordance with the criteria set forth in the Subdivision Manual or as determined by the City Engineer.
- The project shall comply with all applicable regulations promulgated by the U.S. Environmental Protection Agency (EPA) as set forth in the National Pollution Discharge Elimination System (NPDES) permit requirements for urban runoff and stormwater discharge, along with any applicable regulations adopted by the City.
- The developer shall obtain an NPDES construction permit from the California State Water Resources Control Board and to submit pollutant control and monitoring plans to the Regional Water Quality Control Board for approval prior to the issuance of grading permits.

H. WATER QUALITY

Significant Effect: The project would generate substantial increases in surface runoff due to increases in impervious surfaces, and could cause significant flooding and scouring downstream. Water quality in the Sweetwater Reservoir may be compromised by urban runoff from the project site.

Findings: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the water quality impacts to below a level of significance:

- The project is subject to review and approval by the California Environmental Protection Agency (formerly State Department of Health Services). The project shall implement mitigation measures as set by Cal-EPA.

- Prior to or concurrent with SPA Plan approval, the applicant shall obtain approval from the Sweetwater Authority and the Cal-EPA for a diversion ditch plan, or other acceptable plan, to handle drainage that might impact the Sweetwater Reservoir. Said plan shall satisfy the Authority's standards for preservation of water quality in the Sweetwater Reservoir.
- The project applicant shall submit to the City an erosion control plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The City Engineer shall approve the plan prior to issuance of grading permits. The plan shall include placement of sandbags, temporary sediment basins and an erosion control maintenance plan.
- The Board of Directors of the Sweetwater Authority shall approve and implement the stormwater protection plan which is now in the planning process before that agency. Approval of these plans for these facilities, including erosion control facilities, shall occur prior to issuance of a grading permit. The runoff protection system shall be in place and fully operational before construction for Rancho San Miguel within the Sweetwater Reservoir watershed commences.
- A maintenance district shall be formed and financed by the Sweetwater Authority to ensure perpetual maintenance of the runoff protection facilities whether within the City of Chula Vista or within the County (Reynolds 1991).
- As part of the applicant's SPA Plan, the applicant shall prepare and submit a water quality report addressing drainage from the northern and southern portions of the development and from diverted drainage from the runoff protection system in the north. The report shall address proposed plans to reduce potential water quality degradation of downstream tributaries. This issue shall be evaluated further at the SPA Plan level.

I. TRAFFIC

Significant Effect: The proposed project does not identify the functional classifications of roads that are to be constructed to serve the project. Since these roads are not included in the final General Plan Circulation Element, their functional classification has not been determined, which is considered to be a significant impact.

Findings: Pursuant to Section 15091(a)(2) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which are within the jurisdiction of the County of San Diego and will, if implemented, avoid the identified significant environmental effect and the County of San Diego can and should adopt these changes as identified in Final EIR 90-02.

Mitigation Measures: To reduce traffic impacts to below a level of significance, the following mitigation measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The proposed San Miguel Ranch Road shall be designated as a Four-Lane Major Street between East H Street and SR 125 and a Four-Lane Class I between SP. 125 and Bonita Road.
- The proposed north entry road leading to the northern portion of the site from San Miguel Ranch road shall be designated as a Two-Lane Class II collector.

J. AIR QUALITY

Significant Effect: Short-term pollutant emissions will occur during the construction phase of the project. The air quality impacts are considered significant short-term impacts.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To reduce short-term pollutant emissions to below a level of significance, the following mitigation measures, which are found to be feasible and are required as conditions of approval, shall be implemented during the construction phase of the project:

- Heavy-duty construction equipment with modified combustion/fuel injection systems for emissions control shall be utilized during grading and construction.
- Disturbed areas shall be hydroseeded, landscaped, or developed as soon as possible and as directed by the City to reduce dust generation.
- Trucks hauling fill material shall be covered.
- A 20 mile-per-hour speed limit shall be enforced on unpaved surfaces.
- To control dust raised by grading activities, the graded area shall be watered twice a day, unless the county's current state of limited water supplies still exists at the time of construction. In this case other mitigation measures shall be considered and implemented upon City approval. Such measures may include minimizing grading by designing development to follow natural topography, phasing grading so relatively smaller areas are exposed, and revegetating graded areas as rapidly as possible.

* * * *

Significant Effect: Residential fireplace emissions from the project will emit criteria air pollutants.

Finding: San Diego County currently exceeds ambient air quality standards for a number of criteria air pollutants. Residential fireplace emissions from the project will exacerbate the violation of these standards. This is true because development of the project area was not factored into the air quality projections contained in the 1982 State Implementation Plan (SIP) or the 1991 Draft Regional Air Quality Standard (RAQS), and neither the SIP nor the RAQS demonstrate attainment with air quality standards. The mitigation measures described below will not reduce residential fireplace emissions to the point where there is no net increase in ambient air pollutant concentrations. Although the mitigation measures noted below would minimize the impacts on air quality, these impacts would remain significant. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: To mitigate potential impacts associated with fireplace emissions, but not to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- Fireplaces or other wood-burning appliances shall adhere to emissions standards adopted by the County, the State, the San Diego APCD, and U.S. Environmental Protection Agency.

* * * *

Significant Effect: Residential water-heater and furnace emissions from the project will emit criteria air pollutants.

Finding: San Diego County currently exceeds ambient air quality standards for a number of criteria air pollutants. Emissions from residential water heaters and furnaces within the project will exacerbate the violation of these standards. This is true because development of the project area was not factored into the air quality projections contained in the 1982 SIP or the 1991 Draft RAQS, and neither the SIP nor the RAQS demonstrate attainment with air quality standards. The mitigation measures described below will not reduce residential water-heater and furnace emissions to the point where there is no net increase in ambient air pollutant concentrations. Although the mitigation measures noted below would minimize the impacts on air quality, these impacts would remain significant. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: To mitigate potential impacts associated with residential water-heater and furnace emissions, but not to below a level of significance, the following

measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The following methods shall be incorporated into development design to reduce ROG, NOx and PM10 emissions:
 - All residential units shall use solar energy with back-up low NOx water heaters.
 - Low-NOx commercial-size water heaters shall be installed in all the larger onsite facilities.
 - Residential and larger facility gas-fired furnaces shall be outfitted with heat transfer modules providing a 70 percent reduction in NOx emissions.
 - The landscape design shall incorporate low natural hydrocarbon (NHC) producing plant species (also requiring little water), such as cape myrtle and Chinese elm.
- To reduce air pollutant emissions from the proposed Rancho San Miguel development, natural gas water heaters installed at residential units could be equipped with solar collectors such as flat plate solar panels.
- Solar systems normally can provide sufficient water heating capacity during the sunny seasons. Natural gas-fired water heaters would continue to be used to supplement the solar component. On a yearly basis, solar energy could provide about 52 percent of the energy needed for a given water heating system (SCAQMD 1989) and thus effectively reduce total annual pollutant emissions from water heaters by 52 percent.
- There are four basic tactics for the mitigation of air quality presented as part of San Diego's attainment plans (APCD 1986): traffic flow improvements, ridesharing, bicycling, and mass transit. Of the four, the project, as proposed, incorporates bicycling and traffic flow improvements as detailed in the City of Chula Vista Transportation Phasing Plan (TPP). The following additional mitigation measures shall be implemented to reduce vehicular emissions impacts:
 - A ridesharing program shall be implemented within the project.
 - Funding shall be provided by the project to subsidize increased bus service in the vicinity of the proposed project.

- Bicycle paths shall be included along roads as means of alternate transportation.
- In accordance with the Growth Management Program adopted by the City of Chula Vista on April 23, 1991 (Resolution No. 16101), an Air Quality Improvement Plan shall be prepared by the project applicant at the SPA Plan level.

* * * *

Significant Effect: Vehicular emissions associated with the Project will represent approximately one-half percent of the total vehicular air pollutant emissions burden in the San Diego Air Basin.

Finding: San Diego County currently exceeds ambient air quality standards for a number of criteria air pollutants. Vehicular emissions generated by the project will exacerbate the violation of these standards. This is true because development of the project area was not factored into the air quality projections contained in the 1982 SEP or the 1991 Draft RAQS, and neither the SIP nor the RAQS demonstrate attainment with air quality standards. The mitigation measures described below will not reduce vehicular emissions to the point where there is no net increase in ambient air pollutant concentrations. Although the mitigation measures noted below would minimize the impacts on air quality, these impacts would remain significant. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: To mitigate potential impacts associated with vehicular emissions, but not to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The project applicant shall prepare an Air Quality Improvement Plan (AQIP) that:
 - provides an analysis of air pollution impacts that would result from the project,
 - demonstrates the best available design to reduce vehicle trips, maintain or improve traffic flow, reduce vehicle miles travelled,
 - includes implementation of appropriate traffic control measures and other direct or indirect means of reducing emissions, and
 - establishes a monitoring program.

- The AQIP shall be subject to:
 - review and comment by the Resource Conservation Commission,
 - review and comment by the Planning Commission,
 - approval by the City Engineer, and
 - approval and adoption by the City Council.

The applicant shall obtain these approvals prior to approval of the SPA Plan.

- A ridesharing program shall be implemented within the project.
- The applicant shall provide funding to subsidize increased bus service in the vicinity of the project.
- The project shall incorporate bicycle lanes along designated roads within the project.
- The project shall incorporate all feasible, relevant and appropriate mitigation measures developed in the RAQS.

K. NOISE

Significant Effect: Significant impacts would occur since noise levels in many areas in the southern portion of the development, as designed, would exceed 65 dBA Ldn standard due to traffic noise along future State Route 125 and several major roads proposed within the development.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the noise related impacts to below a level of significance:

- The applicant shall construct, or cause to be constructed, noise walls or wall/berm combinations on the top of slopes adjacent to East H Street, San Miguel Ranch Road and proposed State Route 125.

- The noise walls shall be of solid masonry construction with a material weight of at least 3.5 pounds per square foot and which would not allow any air space along their entire length.
- Each noise wall or wall/berm combination shall be placed on the building pads at the top of the slope between the residences and the adjacent impacting roadway. The required wall or wall/berm combination height ranges from 8-10 feet for residences adjacent to Route 125 or East H Street; and from 5 to 6 feet for residences adjacent to San Miguel Ranch Road. Because City regulations do not permit walls over 6 feet in height, only the wall/berm combination would be acceptable unless a project redesign is implemented.
- The visual impacts of the walls/berm combination to reduce noise effects will be evaluated at the SPA Plan level, when actual dimensions and design plans for the wall/berms will be available, as related to impacts on San Miguel Ranch Road and East H Street. Impacts on the development due to proposed SR 125 will be studied as part of the EIR for whichever is built later in time, the Rancho San Miguel project or the proposed SR 125.

L. PUBLIC SERVICES AND UTILITIES

1. WATER

Significant Effect: The location of water facilities required to serve the project has not yet been determined.

Findings: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the water-related impacts to below a level of significance:

- Prior to SPA Plan approval, a Water Master Plan shall be prepared and approved by the City Engineer. This plan shall delineate, at a more detailed level, the recommendations of the Nolte and Associates 1990 Preliminary Water Concept Plan for Rancho San Miguel. The Water Master Plan shall identify the location and sizing of specific facilities and implementation/phasing of the plan. The impacts related to the final placement of the water facilities shall be evaluated at the SPA level, including impacts to biological resources, archaeological resources and visual quality.

- Prior to SPA Plan approval, the applicant shall obtain agreement from the Sweetwater Authority to annex and then obtain agreement from Otay Water District to deannex.

* * * *

Significant Effect: Water consumption within the development will require implementation of water conservation strategies.

Findings: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the water-related impacts to below a level of significance:

- In accordance with Ordinance No. 2448, the project applicant shall prepare a Water Conservation Plan to be submitted with the SPA Plan for approval by the City. This plan shall provide an analysis of water usage requirements of the proposed project, as well as a detailed plan of proposed measures for water conservation, use of reclaimed water, other means of reducing per capita water consumption from the proposed project, and define a program to monitor compliance. This plan shall be reviewed by the Resource Conservation Commission and Planning Commission, prior to final review and adoption by the City Council (Growth Management Program) City of Chula Vista, April 23, 1991, Resolution No. 16101.
- Reclaimed water shall be used wherever feasible, as planned. The project applicant shall begin negotiations with the Otay Water District to ensure distribution of reclaimed water to the site.
- Water conservation measures for onsite landscaping and roadside maintenance shall include, but not be limited to planting of drought tolerant vegetation and the use of irrigation systems which minimize runoff and evaporation loss.
- Low-flush toilets and low-flow showers and faucets shall be installed.
- Hot water lines in water recirculating systems shall be insulated (California Energy Commission).

2. SEWAGE

Significant Effect: There is a physical limitation to the offsite transport of Rancho San Miguel's wastewater. The Frisbie Street trunk sewer between Corral Canyon Road and Bonita Road may not have the capacity to handle the additional Rancho San Miguel sewage flow. Otay Water District ("OWD") staff have met with San Diego County and Chula Vista staff to discuss capacity in the Frisbie Street trunk sewer and concepts to free capacity for development while maintaining OWD's ability to discharge 1.2 mgd. OWD has acknowledged Rancho San Miguel's right to 1.5 mgd capacity in the Frisbie Street trunk line based on existing agreements. Impacts associated with offsite transport of Rancho San Miguel wastewater are considered to be significant.

Findings: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the sewage impacts to below a level of significance:

- Prior to SPA Plan approval, a Wastewater Master Plan ("WMP") shall be prepared subject to approval by the City Engineer. The WMP shall accomplish the standards set forth in the Nolte and Associates 1990 Preliminary Sewer Concept Plan for Rancho San Miguel. The WMP shall identify the location and sizing of onsite and offsite sewage facilities, implementation/phasing, and funding. The WMP shall discuss potential impacts to the Sweetwater Reservoir in the event of a break in the sewerline or sewage spill in the portion of the project within the Sweetwater drainage basin. The impacts related to the final placement of the sewerage facilities shall be evaluated at the SPA level including impacts to biological resources, archaeological resources, visual quality, and water quality. This should include final locations of both onsite and offsite facilities. Sewer system design shall be approved by the City's Engineering Department at SPA level.
- An actual sewer flow measurement or a study to accurately estimate existing wastewater flows in the Frisbie Street trunk sewer shall be conducted before project flows can enter the system. Metering of the Frisbie Street trunk sewer shall be performed by the applicant.
- The project shall be subject to payment of wastewater development fees (to fund trunk sewer and other upgrades) or equivalent proportionate facility financing mechanism necessary to provide service to this project as identified by the City, when adopted. Payment shall occur prior to issuance of building permits or earlier.

3. POLICE PROTECTION

Significant Effect: The project would require the addition of three new officers and five additional support staff to the police force.

Findings: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the public service-related impacts to below a level of significance:

- The project applicant shall be responsible for fronting the necessary funds to enable the City to purchase the requisite equipment for the new police officers and support staff. If required to finance this equipment, the project applicant will be entitled to credit against all or a portion of the Public Facilities Development Impact Fees for Police Services.

4. FIRE PROTECTION

Significant Effect: The Chula Vista Fire Department ("CVFD") and the Bonita/Sunnyside Fire Protection District ("BSF") would be responsible for fire protection and inspection services in the project area. Development of the project in an area that is presently almost entirely undeveloped would place new service demands on the CVFD and the BSF. The CVFD is currently considering establishing a permanent fire station that would serve the project. Several scenarios for the location of the station are proposed and analyzed. Fire service response times would be inadequate for the northern portion of the site under several scenarios. Constraints to fire protection in the northern portion include the negative impacts associated with the provision of only one access road to serve the entire 1,852-acre northern portion, limited maneuverability for fire trucks once in the northern portion, slowing down to access gated communities and steep roads. In addition, fire protection for the proposed conference and interpretive centers cannot be determined without more detailed information on these facilities.

The danger of brush fires represents potentially significant fire hazard impacts to dwellings that are located near hillsides.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the public service-related impacts to below a level of significance:

- Impacts related to the proposed conference and interpretive centers cannot be mitigated without more detailed information regarding usage and sizing of the facilities. These impacts shall be fully analyzed at the SPA Plan review level.
- The project applicant shall provide a second access road to the northern portion if the new fire station is located in EastLake I (Chase 1991) unless the Chula Vista Fire Department determines that the second access road is not required for provision of adequate fire and emergency medical service.
- Fire sprinklers shall be installed in all buildings and residences in the northern portion of the site (Gove 1991).
- A control system shall be installed that utilizes a special light on the fire truck to open gates for the gated communities electronically (Yokley 1991).
- The applicant shall be required to provide a brush rig for the Chula Vista fire department, in accordance with the Public Facilities DIF - Fire Suppression System. The brush rig should be on-hand prior to any building permit being issued by the City for the northern portion of the project. For providing the brush rig, the developer shall be entitled to a credit against all or a portion of their share of the Public Facilities Development Impact Fee related to the fire suppression system and/or a repayment from future DIF fees collected by the City (Chase 1991).
- The project shall implement an acceptable brush management plan, as proposed by the applicant. Impacts of the plan shall be evaluated at the SPA level.

5. EMERGENCY MEDICAL SERVICES (EMS) PROTECTION

Significant Effect: EMS response times would be greater than city standards in the northern portion of the site.

Findings: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the public service-related impacts to below a level of significance:

- Provide a second access road to the northern portion that enables emergency medical technicians to reach the required number of units within 10 minutes.

6. SCHOOLS

Significant Effect: The project would bring approximately 496 additional elementary school students to the district. An elementary school is proposed by the project; however, financing for this facility has not been determined. Although a high school serving the project will be sited at Otay Ranch, funding has not been arranged.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the public service-related impact to below a level of significance:

- As required by state law, the developer must pay school fees of \$1.58 per square foot of habitable space for residential development and \$0.26 per square foot of commercial development (Heydt 1990). Payment of development fees would not be adequate to fully mitigate the impacts to elementary and high schools in the area.
- Prior to SPA Plan approval, the project applicant shall provide documentation from the Chula Vista City School District ("CVCSD") that the proposed elementary school site location is acceptable to the district. Funding for the school shall be in compliance with CVCSD procedures and shall involve the Mello-Roos Community Facilities District financing method or other financing mechanisms acceptable to CVCSD.
- Prior to SPA Plan approval, the project applicant shall provide documentation to the City confirming satisfaction of SUHSD facility funding requirements to offset student generation impacts. Funding would be satisfied through the Mello Roos Community Facilities District financing method or other means acceptable to the Sweetwater Union High School District ("SUHSD").
- Prior to issuance of any building permits for Rancho San Miguel, the project applicant shall obtain written verification from CVCSD and SUHSD that adequate school facilities and associated financing will be provided for students generated from the project.

L. PARKS, RECREATION, AND OPEN SPACE

Significant Effect: The project proposes an integrated hiking and equestrian trail system that connects to the County's regional system. The system would provide access into areas designated as open space that contain sensitive biological resources, creating significant biological impacts.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the impacts to below a level of significance:

- The trail system layout and site specific designs shall be prepared in coordination with the City's Park and Recreation Department and the Environmental Coordinator. The location of trails within power transmission easements is discouraged by the City's Parks and Recreation Department. This issue will be further analyzed at the SPA Plan level at which time the potential impacts will be re-evaluated.
- The trail system shall be managed and policed in a manner that will be consistent with the objective of protecting the habitat and associated plant and animal species from harm.
- A list of rules regarding proper trail use shall be posted at the interpretative center and also at strategic locations along the trail system.
- Dog-owners shall not be allowed to bring their pets onto any trails within the trail system that occur in open space areas, on or off leash.
- Use of the open space area shall be limited to designated trails.
- Collecting or molesting natural resources (e.g. Horned lizards, cactus, flowers) shall be prohibited.
- Open fires, smoking, and weapons shall not be allowed in the open space areas and trail system.
- Mountain bikes shall be prohibited, due to the extreme sensitivity and regional value of the biological resources in the areas traversed by the trail, and because mountain biking often generates off trail impacts.

- Certain portions of the trail system that traverse sensitive habitat shall be subject to periodic closure to help protect wildlife and allow recovery of the habitat.
- The portion of the trail system that crosses the most eastern areas of the SDG&E property shall be rerouted as far east as is feasible (possibly utilizing an existing jeep trail) to avoid a Golden Eagle perching site located in the area.
- Areas the trails access shall be periodically to ascertain damage from overuse. If it is determined that an area is being degraded the associated trail shall be closed periodically to allow for recovery from use.
- All trails shall be constructed to prevent the channeling of urban runoff into the surrounding open space and Sweetwater Reservoir, to the extent feasible.

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Significant Effect: Portions of the trail system are in SDG&E power transmission easements, which has limited acceptability to the City's Parks and Recreation Department.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the impacts to below a level of significance:

- The trail system should be located outside of power transmission line easements, to the extent feasible, and in no event will any active uses be allowed within the transmission line easements. However, the issue shall be further analyzed at the SPA Plan level, when more specific development plans can be reviewed.

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Significant Effect: The location of staging areas for hiking and equestrian activities have not been finalized.

Finding: Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance until more specific development plans are prepared and analyzed at the SPA Plan level. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

* * * *

Significant Effect: Development of the unpaved portion of the trail system could result in soil erosion and resulting water quality impacts.

Finding: Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance until more specific development plans are prepared and analyzed at the SPA Plan level. As described in the Statement of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval. Upon implementation, these measures will reduce the impacts to below a level of significance:

- The trail system should be located outside of power transmission line easements, to the extent feasible, and in no event will any active uses be allowed within the transmission line easements. However, the issue shall be further analyzed at the SPA Plan level, when more specific development plans can be reviewed.

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IX. SIGNIFICANT CUMULATIVE IMPACTS

Cumulative impacts are those which "are considered when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (Public Resources Code §21082.2b). Several development proposals have been submitted for consideration or have been recently approved by the City of Chula Vista in proximity to Rancho San Miguel. These "current or probable future" development proposals would affect many of the same natural resources and public infrastructure as Rancho San Miguel. Several potentially significant cumulative impacts are associated with development of Rancho San Miguel in conjunction with these surrounding development projects.

The proposed project along with the other related projects will result in the following irreversible environmental changes: Land Use/Conversion of Open Space, Landform/Visual Quality, Biology, Archaeology, Air Quality and Nonrenewable Energy Resources. These significant cumulative impacts are discussed in the Supplement to Draft EIR 90-02, at pages 10-1 through 10-14.

Certain of the above cumulative impacts cannot be substantially lessened or avoided. As described in the Statement of Overriding Considerations, however, the City has determined that these cumulative impacts have been reduced to an acceptable level when balanced against specific overriding considerations. The sub-sections, below, define each of the above-described cumulative impact issues, setting forth either the reasons why they are significant and unavoidable, the mitigation measures adopted to substantially lessen or avoid

them, or the reasons why proposed mitigation measures are infeasible due to specific, economic, social or other considerations.

A. LAND USE/CONVERSION OF OPEN SPACE

Significant Effect: Development of the project as revised would contribute to an incremental increase in the area's conversion of open space to urban land uses. The City's General Plan designates the proposed project as a developable area. Incorporation of permanent natural open space into the project design would offset some of the impacts related to conversion of open space to urban uses. Despite these general mitigation measures, the project would contribute to a significant, unmitigated cumulative land use impact.

Findings: Pursuant to Section 15091(a)(3), there are no feasible measures that would mitigate this cumulative impact to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

B. LANDFORM/VISUAL QUALITY

Significant Effect: The development, in combination with various development projects in the area, would unavoidably contribute to a significant cumulative effect on the existing natural landform and the area's visual quality.

Finding: Although the mitigation measures noted below would minimize cumulative impacts to landforms, these impacts would remain cumulatively significant. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no feasible measures that would mitigate the impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

Mitigation Measures: General mitigation measures being incorporated into this project and other development projects in the area would serve to offset some of the identified landform/visual quality impacts. These mitigation measures include a review of grading plans by a licensed civil engineer, adherence to city grading ordinances and hillside development guidelines, contour grading, slope revegetation and restrictive grading to the building pad.

C. BIOLOGY

Significant Effect: The development would contribute to a significant incremental cumulative loss of quality biology habitat in the region.

Finding: Despite mitigation measures taken to preserve biological resources in this project and in other related development projects, the impact of this project and other development projects on sensitive species and habitat is cumulative and significant. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no other feasible measures that would mitigate this cumulative impact to below a level of significance. As described in the

Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

Mitigation Measures: Revegetation efforts, onsite and offsite re-creation of habitats and offsite habitat preservation programs partially mitigate the identified cumulative impact to biological resources.

D. ARCHAEOLOGY

Significant Effect: The development, in combination with the various development projects in the area, would unavoidably contribute to a significant cumulative adverse effect on existing cultural resources through grading, excavation and construction activities, and expose unprotected sites in open space areas to degradation due to increased human recreational activity.

Finding: Despite implementation of the mitigation measures listed below, this project, together with other approved or probable projects, will have a significant cumulative effect upon cultural resources. Pursuant to Section 15091(a)(3) of the CEQA Guidelines, there are no other feasible measures that would mitigate this cumulative impact to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

Mitigation Measures: Mitigation measures adopted for this and other projects include monitoring grading activities by qualified archaeologists and paleontologists, protective easements around areas of regional archaeological/historical importance and/or data recovery programs at sites which will be affected by development-related construction or recreation activities.

E. WATER SUPPLY

Significant Effect: The development would contribute to an incremental significant cumulative impact on the region's limited water supply, as would any development on the site. Development along the Sweetwater River could also cumulatively impact recreational uses of the waterway and have an adverse affect on native plants that are part of the sensitive estuary system at the mouth of the river.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project that will substantially lessen the significant environmental effect as identified in Final EIR 90-02. Impacts to water supplies will, however, remain cumulatively significant. Pursuant to CEQA Guidelines section 15091(a)(3), there are no feasible measures that would mitigate these impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

Mitigation Measures: To mitigate potential cumulative impacts to water supplies, but not to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The project-specific mitigation measures related to water supply shall be implemented.

F. AIR QUALITY

Significant Effect: The development would contribute to an unmitigated cumulative air quality impact on regional air quality because the proposed development was not considered when the regional air quality attainment plans were formulated for the 1982 SIP revisions for San Diego region. This conclusion also applies to any of the project alternatives (other than the no project alternative). The updated SIP will include the proposed project.

Project emissions in NO_x, reactive organic gases (ROG) and PM₁₀ from vehicular and stationary sources (including fireplaces and water heaters) will add to existing exceedances of state and federal ambient air quality standards. Because San Diego currently exceeds air quality standards for several pollutants, any additional emissions will contribute to San Diego's inability to meet these standards. Therefore, these air quality impacts are considered to be cumulatively significant.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project that will substantially lessen the significant environmental effect as identified in Final EIR 90-02. Impacts to air quality will, however, remain cumulatively significant. Pursuant to CEQA Guidelines section 15091(a)(3), there are no feasible measures that would mitigate these impacts to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

Mitigation Measures: To mitigate potential cumulative impacts to air quality, but not to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The following methods shall be incorporated into development design to reduce ROG, NO_x and PM₁₀ emissions:
 - All residential units shall use solar energy with back-up low NO_x water heaters.
 - Low-NO_x commercial-size water heaters and solar panels shall be installed in all the larger onsite facilities.

- Residential and larger facility gas-fired furnaces shall be outfitted with heat transfer modules providing a 70 percent reduction in NOx emissions.
- The landscape design shall incorporate in the landscape design low natural hydrocarbon (NHC) producing plant species (also requiring little water), such as cape myrtle and Chinese elm.
- To reduce air pollutant emissions from the proposed Rancho San Miguel development, natural gas water heaters installed at residential units shall be equipped with solar collectors such as flat plate solar panels.
- Solar systems normally can provide sufficient water heating capacity during the sunny seasons. Natural gas-fired water heaters would continue to be used to supplement the solar component. On a yearly basis, solar energy could provide about 52 percent of the energy needed for a given water heating system (SCAQMD 1989) and thus effectively reduce total annual pollutant emissions from water heaters by 52 percent.
- There are four basic tactics for the mitigation of air quality presented as part of San Diego's attainment plans (APCD 1986): traffic flow improvements, ridesharing, bicycling, and mass transit. Of the four, the project, as proposed, incorporates bicycling and traffic flow improvements as detailed in the City of Chula Vista Transportation Phasing Plan (TPP). The following additional mitigation measures shall be implemented to reduce vehicular emissions impacts:
 - A ridesharing program shall be implemented within the project.
 - Funding shall be provided by the project to subsidize increased bus service in the vicinity of the proposed project.
 - Bicycle paths shall be included along roads as means of alternate transportation.
- In accordance with the Growth Management Program adopted by the City of Chula Vista on April 23, 1991 (Resolution No. 16101), an Air Quality Improvement Plan shall be prepared by the project applicant at the SPA Plan level.

G. NONRENEWABLE ENERGY RESOURCES

Significant Effect: The development would contribute to a significant cumulative increase in the demand for nonrenewable energy resources.

Finding: Pursuant to Section 15091(a)(3), there are no feasible measures that would mitigate this cumulative impact to below a level of significance. As described in the Statement of Overriding Considerations, however, the City has determined that these impacts are acceptable because of specific overriding considerations.

H. HYDROLOGY

Significant Effect: The project, together with other planned or approved projects in the area, will replace undeveloped land with impervious surfaces, thereby increasing the quantity and velocity of runoff and raising the risk of flooding and erosion. It will cumulatively reduce the rate of groundwater recharge. Finally, it will have cumulative effects on the quality of stormwater runoff.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential cumulative impacts associated with hydrology to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- A hydrologic analysis of the project shall be performed and a plan shall be prepared, as detailed above in connection with project-specific hydrological impacts.
- Erosion control plans, diversion ditch plans and storm drain plans shall be developed for the project.
- All project plans pertaining to hydrology shall be reviewed and approved by a licensed civil engineer.
- The project shall be subject to and comply with all applicable requirements set forth in a Sweetwater Authority Urban Runoff Protection System.

* * * *

I. WATER QUALITY

Significant Effect: Stormwater runoff from the project will be diverted to the Sweetwater River below the Sweetwater Reservoir. This runoff, together with runoff from other planned or approved projects in the area, could cumulatively degrade the quality of river water, which could in turn affect aquatic life.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential cumulative impacts associated with water quality to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The project-specific mitigation measures related to water quality shall be implemented, together with the measures relating to water quality for other approved or probable projects.

* * * *

J. TRANSPORTATION

Significant Effect: The project, together with other planned or approved projects in the area, will result in an overall increase in traffic volumes in the City. Certain elements of the circulation system are projected to operate below acceptable levels due to this cumulative increase in traffic.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential cumulative impacts associated with transportation to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The project-specific mitigation measures related to transportation shall be implemented, together with the measures relating to transportation for other approved or probable projects.
- The issue of transportation will be considered further at the SPA Plan level, when more specific development plans are available for review.

* * * *

K. NOISE

Significant Effect: The project, together with other planned or approved projects in the area, will result in an overall increase in noise, primarily due to cumulative increases in vehicular traffic.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02.

Mitigation Measures: To mitigate potential cumulative impacts associated with noise to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- The project-specific mitigation measures related to noise shall be implemented, together with the measures relating to noise for other approved or probable projects.
- The noise-related issues will be considered further at the SPA Plan level, when more specific development plans are available for review.

* * * *

L. OPEN SPACE

Significant Effect: The project, together with other planned or approved projects in the area, will contribute to a cumulatively significant conversion of existing open space to urban uses.

Finding: Pursuant to Section 15091(a)(1) of the CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will avoid the significant environmental effect as identified in Final EIR 90-02. Impacts to open space will, however, remain cumulatively significant. Pursuant to CEQA Guidelines section 15091(a)(3), there are no feasible measures that would mitigate the impact to below a level of significance. As described in the State of Overriding Considerations, however, the City has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: To mitigate potential cumulative impacts associated with conversion of open space to urban uses, but not to below a level of significance, the following measures, which are found to be feasible and are required as conditions of approval, shall be implemented:

- Natural open space shall be incorporated into project design.
- The applicant shall dedicate open-space easements to the City or county for those portions of the project designated for open space.

* * * *

X. FEASIBILITY OF ALTERNATIVES

CEQA and the CEQA Guidelines require that an EIR include a description of a reasonable range of alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project. The EIR must also include an evaluation of the "no project" alternative. The discussion of alternatives must focus on alternatives "capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance." CEQA Guidelines, 14 Cal.CodeRegs. §15126(d)(3). In addition, the CEQA Guidelines require that the EIR describe reasonable and feasible mitigation measures which could minimize significant adverse impacts. CEQA Guidelines, 14 Cal.CodeRegs. §15126(c).

In general, in preparing and adopting findings a lead agency need not necessarily address the feasibility of both mitigation measures and environmentally superior alternatives when contemplating the approval of a proposed project with significant unmitigated impacts. Where a significant impact can be mitigated to an acceptable (insignificant) level solely by the adoption of mitigation measures, the agency, in drafting its findings, has no obligation to consider the feasibility of environmentally superior alternatives, even if their impacts would be less severe than those of the proposed project as mitigated. *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376; *Laurel Hills Homeowners Association v. City Council* (1978) 83 Cal.App.3d 515; *see also, Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692. Accordingly, for this project, in adopting the findings concerning project alternatives, the City considers only those environmental impacts that, for the proposed project, are significant and cannot be avoided or substantially lessened through mitigation.

Where, as in this project, significant environmental effects remain even after application of all feasible mitigation measures identified in the Final Program EIR, the decisionmakers must evaluate the project alternatives identified in the Final Program EIR. Under these circumstances, CEQA requires findings on the feasibility of project alternatives. "Feasible" means capable of being accomplished in a successful manner within a reasonable time, taking economic, environmental, legal, social and technological factors into account (Guidelines §15364).

If no project alternatives are feasible, the decisionmakers will have to determine whether to adopt a Statement of Overriding Considerations with regard to the project. If there is a feasible project alternative, the decisionmakers must decide whether it is environmentally superior to the project. (All project alternatives considered must be ones which "could feasibly attain the basic objectives of the project" [Guidelines §15126(d)]).

These findings contrast and compare the alternatives where appropriate in order to demonstrate that the selection of the project as revised, while still resulting in significant environmental impacts, has superior environmental and other benefits.

In rejecting certain alternatives, the decisionmakers have examined the project objectives and weighed the ability of the various alternatives to meet the objectives. The decisionmakers believe that the project as revised best meets the project objectives with the least environmental impact. The objectives considered by the decisionmakers are:

1. Creation of a high-quality residential development consistent with the General Plan designation of Low Residential (0-3 du/ac)
2. Provision of a commercial center, community park and elementary school to serve the needs of Rancho San Miguel.
3. Implementation of significant elements of the City's General Plan as follows:

- Preservation of open space corridors and extension of the greenbelt system proposed for the periphery of the city through the provision of approximately 1,648 acres of permanent open space as depicted in the General Plan;
 - Preservation of Mother Miguel Mountain which is designated as a significant landform by the City's General Plan;
 - Implement regional and local circulation needs by providing for the extension of future Highway 125 and surface street connection from East H Street to Bonita Road;
 - Provide necessary public utilities and services to the area including drainage, water, sewage, schools, police, fire, parks, open space and recreation;
 - Provide linkage to schools, parks and shopping centers through the use of bicycle and pedestrian trails as an alternative to the automobile.
4. Provision of a resort facility to serve the surrounding community and visitors to the area.

A. ALTERNATIVES

1. No Project Alternative

The no project alternative assumes that no development would occur on the project site. In other words, the project site would remain in its current undeveloped condition. Because the project site would remain undeveloped under the no project alternative, all of the unmitigated impacts of the project as revised would be avoided. However, the no project alternative is considered infeasible for the following reasons:

a. *Inconsistent With City's General Plan*

The Chula Vista General Plan designates the project site primarily as "Residential Low (0-3 dwelling units/gross acre)," which includes commercial, school, park and open space uses. The project as revised provides for such development and uses, and therefore is consistent with the City's General Plan designation. However, the no project alternative, which contemplates no development at the project site, is not consistent with the City's General Plan designation for the project site.

In addition, the Eastern Territories Element of the City's General Plan contains objectives which call for the creation of a balanced community of residential, commercial, industrial and open space uses. The project as revised provides for a balanced community. The no project alternative, however, does not provide this benefit, as it does

not contemplate development of the project site for urban development, including residential, school, park, commercial and open space uses.

b. *Eliminates Fiscal Benefits to City*

As vacant, undeveloped property, the project site generates no revenue for the City of Chula Vista; however, the City incurs very few costs from the site in its vacant condition. This fiscal situation would continue under the no project alternative. However, the project as revised anticipates a positive fiscal impact on the City of Chula Vista. (Draft EIR, p. 3.14-1). Operating revenues are expected to exceed operating costs over a ten year period (Draft EIR, pp. 3.14-1, 3.14-2). Once buildout is completed, the project is projected to result in a positive fiscal benefit to the City of \$530,897 per year in current dollars. (Draft EIR, pp. 3.14-3, 3.14-4). This positive fiscal benefit would not be realized under the no project alternative.

c. *Inconsistent With Project Objectives*

The no project alternative would not achieve the objectives of the project. For example, the objectives considered by the City, which would not be realized under the no project alternative, include: (i) creation of high-quality residential development consistent with the "Low Residential (0-3 du/ac)" General Plan designation; (ii) provision of a commercial center, community park and elementary school to serve the needs of the project site; (iii) implementation of regional and local circulation needs by providing for the extension of future State Route ("SR 125") and surface street connection from East H Street to Bonita Road; (iv) the implementation of necessary public utilities and services to the area including drainage, water, sewage, schools, police, fire, parks, open space and recreation; and (v) a linkage to schools, parks and shopping centers through the use of bicycle and pedestrian trails as an alternative to the automobile.

2. **Horseshoe Bend Alternative**

This alternative preserves Horseshoe Bend, a U-shaped landform located in the western half of the southern portion of the project. Under this alternative, the number of dwelling units in the Residential Low areas of the southern portion would be 1,261 units as compared to 1,166 units under the revised project (*i.e.*, the New Plan). By preserving Horseshoe Bend, this alternative would reduce the landform and visual quality impacts associated with the project as revised. The alternative would also preserve approximately 35 to 40 acres more open space than the project as revised. In addition, the alternative would reduce some biological impacts as compared to the project.

Because this alternative affects only the southern portion of the project, the northern portion would remain the same as in the project as revised.

Despite reductions in impacts to landform/visual quality and biology, the Horseshoe Bend Alternative is considered infeasible for the following reasons:

a. *Significant Impacts Remain*

Impacts which would remain significant with this alternative include: air quality, biology and landform/visual. Impacts which would remain significant but mitigable are: cultural resources, geology, soils, hydrology, noise, transportation/access, public services and utilities, parks, recreation and open space. Under the Horseshoe Bend Alternative and the project as revised, Gobbler's Knob, also a topographic feature in the project area, would be eliminated by proposed grading, creating significant grading impacts. Mass grading of other areas in the southern portion would also remain a significant impact. The staff report prepared in connection with the Final EIR indicates that these two landforms are not significant under applicable Chula Vista General Plan provisions; these two landforms would create a barrier to the continuity of the project as revised; preservation of the landforms would require realignment of San Miguel Ranch Road from its optimal alignment; and if left intact, these landforms would present erosion hazards. Finally, biological and air quality impacts would remain significant and unmitigable.

b. *Inconsistent With Objectives*

A stated objective for the project is the creation of a high-quality residential development consistent with the "Low Residential" General Plan designation. Under the Horseshoe Bend Alternative, the desired quality level for the development would be difficult to achieve. This is because Horseshoe Bend, as preserved, would essentially split the southern portion, creating a barrier to the cohesion and continuity of the project. In addition, if Horseshoe Bend were preserved, San Miguel Ranch Road would have to be moved from its optimal alignment; such a realignment would be inconsistent with the project's circulation objectives and would adversely impact the proposed preserve for the Otay Tarweed.

3. **The Coon Canyon Alternative**

This alternative preserves Coon Canyon, a major drainage course located in the northern portion of the project that flows into Sweetwater Reservoir. This alternative would accommodate a total of 1,606 units as opposed to the project's 1,619 units. The northern portion would contain approximately 276 dwelling units, rather than 357 units under the project as revised. The southern would contain approximately 1,330 units (approximately 164 more dwelling units than the project as revised).

The purpose of the Coon Canyon Alternative is to reduce biological impacts associated with the northern portion of the project. Despite biological benefits to the northern portion of the project, this alternative is considered infeasible for the following reasons:

a. *Significant Impacts Remain*

This alternative would create significant land use impacts, as it contemplates development of areas on the eastern side of the southern portion which are currently designated as open space. This alternative reduces visual impacts to the northern portion,

but creates additional visual impacts to the southern portion. Impacts to two sensitive habitats, Diegan Coastal sage scrub and wetlands, would be reduced under this alternative; but impacts to non-native grassland (a non-sensitive habitat) would increase. The Coon Canyon Alternative would also increase direct impacts to five important archaeological sites in the southern portion of the project. The alternative also would reduce the amount of impervious surface from the project and therefore reduce runoff impacts. Development would be removed from an area that drains directly into the Sweetwater Reservoir. However, a detailed drainage report and plan would still be required to reduce significant hydrological impacts. Less urban runoff toward the Sweetwater Reservoir would be generated by this alternative compared to the proposed project since urban development would be substantially reduced in the northern portion. However, the proposed runoff protection system would still be required to mitigate impacts to the Sweetwater Reservoir.

b. *Inconsistent With Objectives*

The project's objectives include provision of resort and recreational facilities to serve the surrounding community and visitors to the area. To satisfy these objectives, the project contemplates the development of a conference center, inn and interpretive center. Under the Coon Canyon Alternative, these facilities would not be built, reducing the quality of the overall development. City revenues to be generated by the conference center and inn also would not be realized.

4. **Biologically Sensitive Alternative**

Under the Biologically Sensitive Alternative, the northern portion of the project would not be developed. In addition, the number of acres developed in the southern portion of the project would be reduced. Development would be restricted to 461 acres located on the western and central portions of the southern portion of the project. The number of units slated for the Residential Low areas of the southern portion would increase from 1,166 units to 1,600 units. However, this increase would be accomplished by means of a more compact and dense design.

This alternative would reduce significant impacts to landform/visual (northern portion only), biology, cultural, geology, hydrology, water quality, transportation, air quality, public services and open space. For example, impacts to biological and archaeological impacts would be substantially reduced. The alternative also would substantially lessen the amount of runoff projected for the site as compared to the project as revised. As a result, the Sweetwater Reservoir would not be impacted by urban runoff. In addition, this alternative would lighten the demand on public services in the area, since development would be concentrated in a smaller area, thus reducing the distance required to extend utilities.

Although the Biologically Sensitive Alternative, in many cases, would substantially reduce biological impacts, it is nevertheless considered infeasible for the following reasons:

a. *Significant Impacts Remain*

As noted, several impacts would be reduced by this alternative; however, some impacts would remain significant. These impacts include landform/visual quality (significant because Horseshoe Bend and Gobbler's Knob would be extensively graded), biological resources (still significant due to the presence of large concentrations of Otay Tarweed, a state endangered plant), cultural resources, geology/soils, hydrology and public services and utilities. All other impacts would be similar to those of the revised project. Therefore, this alternative, while environmentally superior to the other design alternatives (except the No Project Alternative), does not eliminate the majority of the impacts that would occur with development on this site.

b. *Inconsistent With City's General Plan*

The Biologically Sensitive Alternative contemplates an increase in housing densities in the southern portion (from 1,166 to 1,600 units), which would result in an overall density of 3.5 dwelling units per acre (du/ac). Such a density ratio is inconsistent with the City's General Plan, which designates the project site as Low Residential (0-3 du/ac). Thus, a General Plan Amendment ("GPA") would be required before this alternative could be adopted. Although a GPA is not itself considered infeasible, it is not part of the project at this time.

c. *Inconsistent With Objectives*

The project objectives include the creation of a high quality residential development that conforms to the General Plan's Low Residential designation. The project as revised satisfies this important objective; however, the Biologically Sensitive Alternative would result in densities greater than 3 du/ac in the southern portion and, therefore, is inconsistent with the project objectives. The 357 proposed lots on the northern portion of the project provide opportunity for a "showcase" of sensitively-designed development, with mass grading eschewed in favor of individual, custom lot design using minimal grading and construction techniques such as stemwall foundations, post and beam construction, and multiple level structures to insure responsiveness to natural topography. The proposed conference center and inn, which would provide a unique facility in the South Bay, would not be part of the northern portion of the project. The proposed interpretive center, which would provide a second "anchor" to the City's greenbelt (along with the Bayfront Nature Interpretive Center), would not be part of the project as revised. For these reasons, the City rejects this alternative.

5. **South Only Development Alternative**

The South Only Development Alternative limits development of the project site to the southern portion only. Development in the southern portion would be the same as for the proposed project, although the number of dwelling units would increase. The alternative would eliminate all development in the northern portion, and the associated impacts in that area would not occur. The primary benefits of this alternative are that: (i) impacts to water quality would be eliminated since the northern portion would not be developed, thereby

removing the potential for contamination of Sweetwater Reservoir; (ii) impacts to biological resources in the northern portion would be eliminated; and (iii) impacts to archaeological resources in the northern portion would be avoided. This alternative also would reduce impacts to geology and hydrology.

Despite these benefits, this alternative exacerbates certain impacts to the southern portion and is considered infeasible. This alternative is inconsistent with some of the project's objectives and is considered infeasible for that reason as well.

a. *Significant Impacts Remain*

The landform and visual quality impacts for the southern portion would not be avoided under this alternative and would be the same as those of the project as revised. In particular, Horseshoe Bend and Gobbler's Knob would still be removed by mass grading, which is a significant unmitigable impact. Visual impacts would still occur along the northern ridgeline of the southern portion for a limited number of lots, as these lots would face SDG&E facilities after SDG&E expands the existing substation. Views along a small portion of East H Street would still be degraded by development along this scenic highway. These impacts are considered significant. All biological impacts for the southern portion would still occur. Significant impacts to cultural resources, geology/soils, air quality, and other identified impacts would be reduced but not to below a level of significance.

b. *Inconsistent With Objectives*

The South Only Alternative is also inconsistent with the project objectives and significant benefits associated with the project as revised. For example, the 357 proposed lots on the northern portion of the project provide opportunity for a "showcase" of sensitively-designed development, with mass grading eschewed in favor of individual, custom lot design using minimal grading and construction techniques such as stemwall foundations, post and beam construction, and multiple level structures to insure responsiveness to natural topography. The proposed conference center and inn, which would provide a unique facility in the South Bay, would not be part of the northern portion of the project. The proposed interpretive center, which would provide a second "anchor" to the City's greenbelt (along with the Bayfront Nature Interpretive Center), would not be part of the project as revised. For these reasons, the City rejects this alternative.

6. **SR 125 Alternative W5**

The SR 125 Alternative W5 examines the proposed project based on an alternative alignment of future SR 125. Instead of forming the western boundary of the proposed project's southern portion, SR 125 would traverse the eastern half of the southern portion in a north/south alignment. With this alignment, SR 125 would travel through the SDG&E property north of the substation and immediately adjacent to the south-western corner of the northern portion of the project site. The purpose of this alternative is to propose a residential development design which would accommodate this alternative freeway alignment. This alternative would alter the configurations of the eastern half of the southern portion

and the southwestern corner of the northern portion of the project site. All other aspects of the project would remain as proposed.

This alternative is considered infeasible for the following reasons:

a. *Significant Impacts Remain*

If the project is constructed prior to resolution of the freeway alignment issue, the SR 125 W5 alternative would create significant negative impacts on the project. The eastern edge of the project would be separated from the rest of the project by SR 125, disrupting the continuity of the neighborhood which should be avoided from a land use planning standpoint. The SR 125 W5 alternative positions the freeway so that it runs between residential neighborhoods, creating noise impacts on both sides of the road. The homesites located immediately adjacent to the freeway would experience noise levels in excess of 65 dBA L_{dn} . By contrast, the alignment of SR 125 in the project as revised places the freeway alongside the southwestern portion of the project rather than between residential neighborhoods (see New Plan, Figure 5-5); therefore, the number of homesites impacted by road noise is reduced. Significant impacts also would remain due to landform/visual, quality, biology, air quality and noise factors.

b. *Inconsistent With Objectives*

Two of the project's objectives are: (i) provision of a commercial center; and (ii) satisfaction of regional and local circulation needs. The SR 125 W5 Alternative does not serve these objectives as well as the project as revised. Specifically, if the SR 125 W5 alternative were adopted, market incentives would encourage businesses to locate near the freeway. This would change the nature of commercial services from neighborhood commercial to freeway commercial. The W5 alternative alignment of SR 125 would also attract through-traffic from Chula Vista, which would then be directed through (rather than around) residential neighborhoods. In addition, the W5 alternative alignment is not consistent with the conceptual alignment shown in the Circulation Element of the City's General Plan.

7. **SR 125 Alternative W6**

The SR 125 Alternative W6 would align SR 125 so that it traveled through the western half of the southern portion of the project, instead of along the border of the western boundary, as is the case in the project as revised. This alternative would affect only the southern portion of the project site, and would not significantly impact the number of dwelling units at the project or the mix of land uses.

This alternative is considered infeasible for the following reasons:

a. *Significant Impacts Remain*

Land use compatibility issues would increase. Under this alternative, SR 125 would bisect the western neighborhood and thereby increase the number of dwelling units

affected by their proximity to the freeway. Measures would have to be implemented to reduce noise, visual, and other impacts related to freeway incompatibility. In addition, the following significant impacts would still exist under this alternative: landform/visual quality, biology and air quality. All other impacts identified in the EIR would remain the same.

b. *Inconsistent With Objectives*

Project objectives include: (i) provision of a community park and elementary school; (ii) linkage to schools, parks and shopping centers through the use of bicycle and pedestrian trails; and (iii) provision of necessary public services such as parks, schools and recreational areas. The project design, as revised, serves these objectives by, among other things, locating an elementary school immediately adjacent to a park. (See New Plan, Figure 2.5). Under the SR 125 W6 Alternative, however, SR 125 would travel through the middle of the proposed school/park area, requiring them to be separated and relocated. (See Figure 5-6, EIR). In addition, this alternative alignment is not consistent with the conceptual alignment shown in the Circulation Element of the City's General Plan.

8. **Offsite Alternatives**

In addition to the onsite alternatives, Final EIR 90-02 analyzed a range of offsite alternatives. The following offsite alternatives are rejected for the reasons described.

In order to evaluate offsite alternatives to Rancho San Miguel, a 2,500-acre site within the South Bay area is needed to accommodate the project. Other sites in the area would offer environmental advantages over the project site with regard to biological and cultural constraints since the project site is so biologically diverse and archaeologically rich. Developing an alternative site would eliminate the direct impacts to the biological, cultural resources and landforms on the project site. However, this situation would be temporary because the project site is designated for future development under the Chula Vista General Plan. Relocating the proposed project offsite would transfer impacts elsewhere, but would leave the subject site available for future development. Therefore, requiring the proposed development to relocate offsite would not protect the project site from future significant unmitigable impacts.

In addition, it is difficult to find a suitable alternative site. Alternative sites within the City's adopted Sphere of Influence have already been committed to residential or mixed-use development, consistent with the land uses designated in the Chula Vista General Plan. These sites include Bonita Long Canyon, El Rancho del Rey, EastLake and Sunbow. Salt Creek Ranch, a 1,200-acre development to the south of the project, is currently being planned as a residential development by the Baldwin Company. Together, these projects total over 7,300 acres and limit the area available in the project vicinity for development of a project that would be a feasible alternative to Rancho San Miguel in light of the size, scope, character and stated project objectives.

The availability of alternative sites on unincorporated County land in the project vicinity is also restricted either due to ongoing or planned projects, topographic constraints or incompatibility with existing community character. Most available land has been

incorporated into planned or approved projects such as Rancho San Diego, Loma Del Sol, Las Montanas, Hidden Valley, Singing Hills, The Pointe and Honey Springs Ranch. Unincorporated County land east of the planned and approved projects described above is generally restricted by steep topography and the absence of urban services.

Over 23,000 acres of undeveloped land is located within Otay Ranch to the south and east of the Rancho San Miguel property. The entire Otay Ranch, owned by the Baldwin Company, is currently undergoing a General Plan Amendment for future development. Land topographically suitable for residential development is located on the Otay Mesa south of the project site. This land has been designated for industrial development by both the County and City of San Diego and is being developed with industrial land uses at the present time. These industrial land uses would not be compatible with a residential planned community such as Rancho San Miguel. In light of the commitment of land and development within the project vicinity, alternative sites for purchase to accommodate the proposed project are limited and thus are not considered to be a feasible option. In addition, the project does applicant does not own land elsewhere.

In regard to an alternative sites analysis, the court in the *Goleta Valley* decision rejected the argument that a project EIR should be a broad-based regional planning effort and stated that a General Plan and not a project EIR is the appropriate place for such consideration. *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553. The Chula Vista General Plan was recently updated by the City after a general study of city resources and extensive public participation. The General Plan process considers regional planning concerns to identify optimum locations for development and it is not appropriate for an EIR to find alternative locations for a project that is consistent with the General Plan designation.

The Chula Vista General Plan Update EIR (1989) identified significant, unmitigable impacts of buildout of the proposed General Plan Update. These impacts were: biological resources, noise, conversion of agricultural lands, landform/aesthetics, landuses/General Plan/zoning, open space, transportation/access and air quality. The General Plan was adopted with an alternative showing residential development on the Rancho San Miguel site, and the City was required to prepare CEQA findings to document the reasons why the plan was adopted given the significant unmitigable impacts. The City's CEQA findings considered: (a) changes and other measures that would, upon implementation, reduce the significant impacts; and (b) justifications for non-implementation of impact-minimizing mitigation measures due to their infeasibility based on social and economic considerations.

The "social and economic" considerations referred to above included:

- The City of Chula Vista would be deprived of the surplus revenue projected from buildout of the entire plan.
- The citizens of Chula Vista and the region would be deprived of the housing, employment, and recreational opportunities inherent in the proposed plan if it were not adopted.

- The preservation of the Eastern Territories in its current state would preclude the various property owners from achieving the goals of eventually developing their land.

In summary, developing the Rancho San Miguel project on an alternative site cannot be feasibly accomplished because the property owner would have to purchase other land in the vicinity (which it does not own), and surrounding land is already committed for future projects. Even if other lands were available in the Chula Vista area, the impacts would be similar throughout the area. Furthermore, implementation of the project on an alternative site would not reduce impacts to the proposed site since it would remain vulnerable to impacts associated with its future development status under the Chula Vista General Plan.

XI. STATEMENT OF OVERRIDING CONSIDERATIONS

BACKGROUND

The California Environmental Quality Act (CEQA) and the State CEQA Guidelines provide:

"(a) CEQA requires the decision-maker to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve the project. If the benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered 'acceptable.'

(b) Where the decision of the public agency allows the occurrence of significant effects which are identified in the final EIR but are not at least substantially mitigated, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. This statement may be necessary if the agency also makes a finding under Section 15091(a) (2) or (a) (3).

(c) If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the Notice of Determination." (CEQA Guidelines, 14 Cal.CodeRegs. §15093).

THE STATEMENT

The City Council finds that the mitigation measures found in the CEQA findings, when implemented, avoid or substantially lessen most of the significant effects identified in Final EIR 90-02 for Rancho San Miguel. Nonetheless, certain significant effects of the Rancho San Miguel project are unavoidable even after incorporation of all feasible mitigation measures. These unavoidable significant effects include: landform/visual quality, air quality, biology and cumulative impacts to land use/conversion of open space, landform/visual quality, biology, archaeology, water supply, air quality and nonrenewable energy resources. In approving this project, the City has balanced the benefits of the Rancho San Miguel project against these unavoidable environmental effects. In this regard, the City

finds that all feasible mitigation measures identified in the CEQA findings, have been or will be implemented with the project, and any significant remaining unavoidable effects are acceptable due to the following specific social, economic or other considerations, all of which are based upon the facts set forth in the CEQA findings, Final EIR 90-02, and the record of the proceedings for this project.

1. The project as proposed will provide a significant number (772) or large estate and rural-type lots ranging in size from 15,000 square feet to one acre in size. Such high quality, upper-end housing products are currently limited in the South Bay area.
2. The 357 proposed lots on the northern portion of the project provide opportunity for a "showcase" of sensitively-designed development, with mass grading eschewed in favor of individual, custom lot design using minimal grading and construction techniques such as stemwall foundations, post and beam construction, and multiple level structures to ensure responsiveness to natural topography.
3. The proposed conference center retreat and inn would provide a unique facility in the South Bay, consisting of a quiet rustic leisure time and recreational oriented development in a natural environment.
4. The proposed interpretive center would provide a second such "anchor" to the City's Greenbelt (along with the Bayfront Nature Interpretive Center), allowing for an educational and recreational opportunity to citizens of Chula Vista and all of San Diego County.
5. The project proposes a superior level of planning and design on the southern portion of the project which would not be feasible if Horseshoe Bend and Gobbler's Knob were preserved. Specifically, the project is united into a cohesive whole with the location of a community park and elementary school in the center of the Southern portion.
6. Elimination of Horseshoe Bend and Gobbler's Knob allows for the optimal alignment of San Miguel Ranch road through the project site, where it provides easy access east and west for project residents and provides a suitable parallel surface street alternative to the future Route 125.
7. The proposed Otay Tarweed preserve on the southern parcel provides protection for approximately 44,000 plants of this State-listed endangered plant species. Such a preserve would not be feasible without the elimination of Horseshoe Bend and Gobbler's Knob.

8. The project preserves, through dedication, approximately 1,648 acres of permanent natural open space constituting approximately 64% of the project site.

For these reasons, on balance, the City Council finds that there are social, economic and other considerations resulting from this project that serve to override and outweigh the project's unavoidable significant environmental effects and, thus, the adverse environmental effects are considered acceptable.

POINTS OF AGREEMENT

June 21, 1995

These Points of Agreement (Points) are between Emerald Properties Corp. (EPC), the U.S. Fish & Wildlife Service (USFWS), and the California Department of Fish & Game (CDFG) (Parties). The Points are intended to be memorialized in a Conservation Agreement between the Parties and the City of Chula Vista (City) in the context of the Multiple Species Conservation Program (MSCP) Subarea Plan for the City.

The Points are:

- A. EPC owns San Miguel Ranch, which comprises a 738-acre South Parcel and an 1,852-acre North Parcel. Wildlife agencies intend to issue the City Take authorizations which would permit City to allow EPC to take covered species. Wildlife agencies intend for the implementation of San Miguel Ranch's portion of City's MSCP Subarea Plan to represent full compliance with the mandates of the federal and California Endangered Species Acts (ESA), the Natural Community Conservation Planning Act and the California Native Plant Protection Act.
- B. To assure flexibility in development planning for EPC, the Points of Agreement provide for two preserve boundary scenarios to be prepared for the San Miguel Ranch portion of the City's Subarea Plan.
- C. The two scenarios are:
 - I. **Draft MHPA (Scenario I)**
The preserve alternative is depicted in Figure 1, and is referred to as the Draft Multiple Habitat Planning Area (MHPA) map. This alternative indicates no development on the north parcel of San Miguel Ranch. To make it acceptable to EPC, the development on the South Parcel would need to be redesigned to yield about 1,620 dwelling units. This scenario and related biological mitigation are acceptable to the wildlife agencies.
 - II. **GDP (Scenario II)**
This preserve alternative is depicted in Figure 2, and is referred to as the General Development Plan (GDP) scenario. This alternative reflects the development approvals for San Miguel Ranch obtained in 1993 from the City, but does not reflect the understanding between the wildlife agencies and EPC.
- D. Take Authorizations for Scenario I would be the same as for the proposed MSCP and be approved through the City's Subarea Plan. For Scenario II, EPC would have to seek Take Authorizations through the Section 10(a)(1)(B) of the federal Endangered Species Act and state Management Authorization processes.

- E. Mitigation for San Miguel Ranch project biological impacts in each of the two scenarios is as follows:
- I. **Draft MHPA:** EPC would dedicate approximately 166 acres of the North Parcel to offset the impacts of development on the South Parcel and would also preserve approximately 21 acres of Otay Tarplant on the South Parcel. The remainder of the North Parcel would be a high priority MSCP acquisition target.
 - II. **GDP:** Mitigation for any development impacts on either the North or South parcels would be determined at the time when EPC prepared a Conservation Plan in support of its ESA Section 10(a)(1)(B) permit application and a Fish & Game Code Section 2081 Management Authorization.
- F. If the Draft MHPA scenario is implemented, the habitat value of each acre in the North Parcel is equivalent for purposes of mitigation banking.
- G. It is anticipated that the Otay Tarplant, Golden Eagle, Northern Harrier, Cooper's Hawk, and the Coastal Cactus Wren will be included as Covered Species in the approved City MSCP Subarea Plan, provided the agency-recommended changes to the MSCP Preserve design are achieved and assuming the Scenario I is chosen by EPC. This basic level of assurance is essential to provide EPC with certainty if they set aside the north as preserve, they can proceed with development of the south without future endangered species constraints.
- H. Agencies intend to vigorously support efforts of EPC to gain project approval from City, assuming MHPA scenario is used as the development "footprint" for the San Miguel Ranch project. This support will include letters in support and appearances at public hearings.
- I. Agencies acknowledge that EPC giving up the right to pursue further entitlements for the North Parcel indicates EPC's desire to recover the value in the estate lot development in the North Parcel through a combination of preserve acquisition, mitigation banking, and a redesign and General Plan Amendment on the South Parcel. If an approximately 1,620-dwelling unit entitlement is approved by City on the South Parcel, EPC will not pursue Scenario II.
- J. EPC intends to cooperate fully with the City and wildlife agencies in the development of a MSCP Subarea Plan in Chula Vista, which will provide the regulatory framework for this Agreement. In the event City does not prepare an MSCP Subarea Plan, agencies will work with EPC to develop project-specific Take Authorizations. If, at that time, EPC pursues Scenario I, the wildlife agencies will work with EPC to develop a subarea plan for inclusion under the MSCP umbrella, rather than going through the more lengthy Habitat Conservation Plan development process.

K. If a Conservation Agreement has not been signed within six months of the signing date of these Points of Agreement, then all parties are relieved of any explicit or implicit obligations noted in the Points of Agreement. Parties will use best efforts to conclude negotiations on the Conservation Agreement within the six month period.

Acknowledged:

Emerald Properties Corp.

By _____

A New York Corporation

United States Fish & Wildlife Service

By Gail C. Kobetich

California Department of Fish & Game

By Ronald D. Rempel

Rancho San Miguel General Development Plan

Vol. 3: Draft Supplement to Environmental Impact Report
EIR-90-02

State Clearinghouse No. 90010155



Prepared for:
City of Chula Vista

January 1993

OGDEN
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Rancho San Miguel General Development Plan

**Vol. 3: Draft Supplement to Environmental Impact Report
EIR-90-02**

State Clearinghouse No. 90010155

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January 1993

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* *Impact analysis of Archaeology/History/Paleontology, Geology/Soils, Mineral Resources, Conversion of Agricultural Lands, Air Quality, Noise, Community Social Factors, Fiscal Analysis, and Public Services and Utilities, are included in Volume 1 of the Draft EIR. The "New Plan" as described in the project description section herein did not require any additional changes in any of these sections and therefore they will be incorporated by reference in the Final EIR.*

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SECTION 1 INTRODUCTION AND SUMMARY

1.1 PURPOSE, PROCEDURES AND SCOPE

This Supplement to Draft EIR 90-02 (State Clearinghouse No. 90010155) is prepared in accordance with the California Environmental Quality Act ("CEQA") (Pub. Res. Code §§21000 *et seq.*) and the State CEQA Guidelines ("Guidelines") (14 Cal. Code Regs. §§15000 *et seq.*). This supplement is the third volume of a three volume document -- the first two volumes consisting of Draft EIR 90-02 and Technical Appendices. The Lead or Responsible Agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if (1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR and (2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation. (Guidelines 15163 -- Authority cited Sections 21083 and 21087, Public Resources Code) Section 15162 states where an EIR has been prepared, no additional EIR need be prepared unless new information of substantial importance to the project becomes available and the new information shows mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project.

The New Plan as proposed here is an alternative which further reduces general plan inconsistency issues and for which only minor additions or changes are necessary to make the previous EIR adequately apply to the project in the changed situation. Therefore, this supplement is the appropriate document.

The supplement to an EIR need only contain the information necessary to make the previous EIR adequate for the project, as revised. (Guidelines §15163(b)). A supplement is given the same kind of notice and public review as is required for a draft EIR; however, the supplement may be circulated by itself without recirculating the previous EIR. (Guidelines §15163(c),(d)). The decision-making body shall consider the previous EIR as revised by the supplement when deciding whether to approve the project as revised. (Guidelines §15163(e)).

A Draft Environmental Impact Report (EIR 90-02) for the Rancho San Miguel development proposal was completed in December 1991. Minor changes to the land use concept for the General Development Plan were incorporated into the project as a result of public comments received during the 45 day review period and city staff concerns related to the project's lack of consistency with the General Plan. These changes to the land development concept plan for the General Development Plan were addressed in an Addendum (First Addendum) as the Mitigation Concept Plan in which went to the Planning Commission on September 30, 1992. A Second Addendum was prepared which incorporated further changes in the land use development concept plan at the GDP level and proposed changes to mitigate biological issues at the SPA level. This Second Addendum was submitted to the Planning Commission on September 30, 1992 and to the City Council October 27, 1992. In response to comments at the noticed public hearings and further direction from staff, the Planning Commission, and the City Council, the project proponent made further additions and changes

to the proposed project.

This Supplement will be available for public and agency review for a 45-day period. Written comments on this Supplement are invited and may be submitted to the City of Chula Vista, Planning Department, 276 Fourth Avenue, Chula Vista, California 91910. In addition, this Supplement and the prior EIR (Draft EIR 90-02, Volumes 1 and 2) will be available at the Chula Vista Planning Department and the Chula Vista City Library. Prior to making a determination on the project as revised, this Supplement and Draft EIR 90-02 will be reviewed and considered by both the Chula Vista Planning Commission and City Council, with the City Council making the final decision with respect to certification of the Supplement and prior Draft EIR 90-02.

The scope of the Supplement was determined by the City to include the following environmental issues and other relevant sections which were either changed or updated since public circulation of Draft EIR 90-02:

- Project Description
- Land Use
- Landform/Visual Quality
- Biological Resources
- Transportation/Access
- Parks, Recreation and Open Space
- Unavoidable Significant Environmental Impacts
- Relationship Between Local Short-Term Uses and Long-Term Productivity
- Irreversible Environmental Changes
- Growth Inducement
- Cumulative Impacts
- Agencies and Persons Consulted

This Supplement is intended to supersede Draft EIR 90-02 with respect to each of the environmental issues listed above. For that reason, the City encourages public agencies and all other interested persons to provide written comments on the Supplement as regards these issues before the end of the public comment period.

The City has determined that the following environmental issues and other sections do

not require any further analyses beyond that provided in Draft EIR 90-02:

- Archeology/History and Paleontology
- Geology/Soils
- Mineral Resources
- Conversion of Agricultural Land
- Hydrology
- Water Quality
- Air Quality
- Noise
- Community Social Factors
- Fiscal Analysis
- Public Services and Utilities
- Compliance with the Thresholds/Standards Policy
- Alternatives

As to these environmental issues, the City has determined that no significant changes or updated analyses is required beyond that discussed in EIR 90-02 (Volumes 1 and 2). For that reason, Draft EIR 90-02 is applicable to these environmental issues and is not superseded.

1.2 BACKGROUND

The Draft Environmental Impact Report (EIR 90-02) for the Rancho San Miguel GDP was completed in December 1991. The Draft EIR was circulated for public review and comment to specific agencies through the State Clearinghouse from December 23, 1991 to February 6, 1992 (a 45 day review period). Additional comments given by commentators were received over the next several weeks and were incorporated as appropriate. Final public review ended on February 12, 1992, after the Chula Vista Planning Commission held a public hearing to take testimony on the adequacy of Draft EIR 90-02. Numerous comment letters were received by the City of Chula Vista during the public review period. Written responses to those comment letters were prepared. The comments on the Draft EIR, responses thereto and the Draft EIR text (with revisions by an errata sheet) are included in a bound volume entitled, Rancho San Miguel General Development Plan, Vol. 1: Final Environmental Impact Report EIR 90-02 (SCH No. 90010155).

After expiration of the public review period, an Addendum to Draft EIR 90-02 was prepared to evaluate refinements made to the original proposed project. These project refinements were developed in response to comments received from City staff and various commentators during the public review period on Draft EIR 90-02. The refinements resulted in the preparation of a "Mitigation Concept Plan" following additional workshop sessions with staff. A description of the earlier "Mitigation Concept Plan," which was previously presented to the Planning Commission at a publicly noticed meeting on April 1, 1992, is provided in Draft EIR 90-02.

Public hearings were held before both the Chula Vista Planning Commission and the City Council in September and October of 1992. As a result of comments and testimony received at those hearings, City staff and the applicant continued to work on proposed design changes to address unresolved issues with respect to the project. The project has been further refined to address these unresolved issues. The proposed changes are now reflected in the "New Plan," which is the subject of this Supplement to Draft EIR 90-02.

1.3 PROJECT DESCRIPTION

The proposed project is the "New Plan," which is described and illustrated in Section 2 of this Supplement. The "New Plan" proposes various design changes to the southern portion of the Rancho San Miguel GDP. The proposed changes were made in response to: (a) public comments received on Draft EIR 90-02 during the CEQA public review period; (b) City staff concerns over the original project's consistency with the Chula Vista General Plan; (c) public testimony received at the hearing before the Planning Commission on September 30, 1992, and the hearing before the City Council on October 27, 1992; and (d) comments made by members of both the Planning Commission and City Council at the two public hearings.

The major changes between the Mitigation Concept Plan discussed in the previous second addendum and the "New Plan" are related to proposed lot sizes and density reductions in the southern portion of the Rancho San Miguel GDP. Additional estate-size lots have been added to the project in order to constitute a majority of lots within the Low Residential designated areas as shown on the Chula Vista General Plan. Some of these new estate lots have been placed in the northwest portion of the southern parcel, adjacent to the low density and rural Bonita-Sunnyside community. The "luxury", or midsize lots shown in the Mitigation Concept Plan have been eliminated, and the remainder of lots which are not estate are designated as "cluster" lots with a minimum lot size of 7,000 square feet. Overall density of the southern portion of the project has been reduced by 35 units due to the applicant's decision to not request a density transfer from open space on the northern parcel to the southern parcel.

The "New Plan" does not alter, affect or change the Rancho San Miguel GDP as it relates to the northern portion of the project. The northern portion of the project remains as it is proposed in Draft EIR 90-02.

1.4 SUMMARY OF IMPACTS AND MITIGATION

The following table summarizes impacts and mitigation for those issues which are analyzed in this Supplement. For all other issues, see Draft EIR 90-02 (Volume 2).

Table 1-2

SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Land Use	Development of the northern portion of the site is potentially incompatible with the Sweetwater Reservoir due to degradation of water quality from urban runoff. this significant impact is discussed in Section 3.9, Water Quality.	Mitigation for this impact includes approval of stormwater management plans, and is discussed further in Section 3.9, Water Quality. It is expected by the Sweetwater Authority that the plan will reduce significant water quality impacts to Sweetwater Reservoir to below a level of significance.
Land Use (contd.)	Portions of the proposed trail system cross SDG&E easements. The City Parks & Recreation Department discourages the placement of trails in these easements.	The proposed trail system will be reviewed at the SPA Plan level in order to minimize the location of trails within SDG&E easements. This measure will reduce impacts to below a level of significance.
Land Use (contd.)	Locating residential units adjacent to the SDG&E Miguel substation is a significant impact. The utility plans to expand the facility in the future, and potential conflicts could arise with residents adjacent to the facility when expansion begins.	Provide future residents with information concerning SDG&E expansion plans. Prepare a comprehensive buffer plan at the SPA level. Provide site plans to SDG&E for review. Coordinate with SDG&E. The applicant shall not oppose SDG&E expansion proposals. These measures will reduce impacts to below a level of significance.

Table 1-2 (contd.)

SUMMARY OF IMPACTS AND MITIGATION

Land Use (contd.) General Plan Consistency	The project GDP does not discuss the issue of affordable housing, and therefore is inconsistent with the City's provisions relating to affordable housing.	This issue shall be evaluated at the SPA Plan level. The project applicant has made a commitment to comply with the City's affordable housing performance criteria. Satisfaction of these criteria at the SPA Plan level will eliminate any general plan inconsistency.
Landform/ Visual	Grading techniques for proposed interpretive center and conference center on slopes greater than 25% are not discussed in GDP, therefore, the landform/visual impacts are unknown.	This issue shall be evaluated at the SPA level.
Landform/ Visual (contd.)	Two topographic features in the southern portion of the site (Horseshoe Bend, Gobbler's Knob) will be removed by extensive grading. The landform impacts are considered to be significant.	* * Impacts to the significant landforms in the southern portion of the site are unmitigable with the project as proposed.
Landform/ Visual (contd.)	Large and conspicuous potable water storage tanks are proposed for provision of drinking water at adequate pressure. The exact locations of the tanks have not been determined at this time, therefore, the impacts are unknown.	This issue shall be evaluated at the SPA level.

- * * Impacts which are significant and not mitigable to below a level of significance with the project as proposed

Table 1-2 (contd.)

SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Landform/ Visual (contd.)	A limited number of lots on the southern parcel will be oriented toward the existing SDG&E facility. Lots along the northern perimeter of the southern parcel overlooking Wild Man's Canyon will be impacted by planned expansion of the SDG&E facility. This is a significant impact.	Provide future residents with information concerning SDG&E expansion plans. Prepare a comprehensive buffer plan at the SPA level. Provide site plans to SDG&E for review. Coordinate with SDG&E. The applicant shall not oppose SDG&E expansion proposals. It is anticipated that these measures may reduce impacts to below a level of significance at the SPA level of analysis. A determination of the level of significance will be made at that time.
Landform/ Visual (contd.)	Views from a small portion of East H Street, a designated scenic roadway, would be degraded by grading and development associated with the proposed project. The impacts are significant.	Implementation of landscaping and development plans consistent with General Plan guidelines for scenic roadways would reduce impacts to below a level of significance.
Biology	The project would disrupt the rich biodiversity of the site. This is a significant impact.	* * Impacts to biodiversity of the site are not mitigable with the project as proposed.

* * Impacts which are significant and not mitigable to below a level of significance with the project as proposed

Table 1-2 (contd.)

SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Biology (contd.)	The project would result in the loss of 3.1 acres of wetland habitat. This is considered to be a significant impact by the California Department of Fish & Game (CDFG) due to the high sensitivity of this habitat.	A 1603 agreement between the project proponent and CDFG, submission of pre-discharge Notification to the Army Corps of Engineers, and a 404 permit are required as mitigation for any filling of wetlands. To comply with the no net loss of wetlands criteria established by the CDFG, impacts to wetland habitat would be reduced. Where impacts cannot be avoided, onsite creation of wetland habitat is required at a replacement ratio agreed upon with CDFG, to be carried out under the direction of a qualified wetland revegetation specialist and the CDFG. These measures would reduce impacts to below a level of significance.
Biology (contd.)	The project would result in the loss of 467 acres of diegan coastal sage scrub habitat. This is considered to be a significant impact due to the overall loss of this habitat in southern California, and because many of the sensitive plant and animal species found onsite are concentrated in this habitat, including the California gnatcatcher and coast barrel cactus.	<p style="text-align: center;">* *</p> <p>The impacts to coastal sage scrub are significant and unmitigable with the project as proposed. The impacts will be partially mitigated by the following measures. Commitment by the applicant to participate in the South Bay Natural Communities Conservation Program (NCCP) and abide by its conclusions. Placement of biological mitigation criteria on the northern parcel (in case the NCCP does not come to fruition) which will allow the City of Chula Vista to require preservation of between 85% and 100% of all Diegan Sage Scrub habitat on the northern parcel. Hydroseed graded areas with native plant species. Restrict site preparation activities to areas not designated as open space. Phasing plans and the final site plan must be reviewed by a qualified city biologist and the CDFG for compliance with the adopted Mitigation Monitoring Program. Alternative projects which would also partially reduce impacts are discussed in Section 5 of the Draft EIR (Volume 1). Impacts to this sensitive habitat remain significant even with implementation of these measures.</p>

* * Impacts which are significant and not mitigable to below a level of significance with the project as proposed

Table 1-2 (contd.)

SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Biology (contd.)	<u>Otay tarweed:</u> Roughly 70 percent of an estimated total of 200,000 individuals would be impacted by the project. Dense populations of this state endangered plant are in the western and central parts of the southern portion. This is a significant impact.	* * Impacts to Otay tarweed are unmitigable with the project as proposed. Partial mitigation shall be achieved by the preservation of a contiguous preserve area of approximately 42,000 of 144,000 plants on the southern parcel, and preservation of approximately 10,000 plants on the northern parcel. Additionally, further preservation of Otay tarplant on the northern parcel may be required (between 65% and 100% of remaining plants). Impacts to Otay Tarweed remain significant even with implementation of these measures.
Biology (contd.)	<u>Palmer's grappling hook:</u> All of the estimated 11,000 individuals on the site would be impacted by the project. The loss of such a large population of this species is a significant impact.	* * Impacts to Palmer's grappling hook are unmitigable with the project as proposed. Partial mitigation shall be achieved by preservation of approximately 1,000 plants on the northern parcel. Impacts to this sensitive plant remain significant even with implementation of these measures.
Biology (contd.)	<u>Coast Barrel Cactus:</u> Roughly 80% of an estimated 8,000 individuals would be impacted by the project. This site represents one of the more impressive barrel cactus populations in the County. This is a significant impact.	Preserve approximately 40% of the 2,892 cacti on the southern parcel in situ, with transplantation of the remainder. Preserve an additional 1,226 cacti on the northern parcel as mitigation for southern parcel impacts. Require preservation of at least 60% of remaining cacti on the northern parcel, with trans-plantation of the remainder, at the SPA plan level. This is a significant impact at the General Development Plan level. It is anticipated that these measures may reduce impacts to below a level of significance at the SPA level of analysis. A determination of the level of significance will be made at that time.

* * Impacts which are significant and not mitigable to below a level of significance with the project as proposed

Table 1-2 (contd.)

SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Biology (contd.)	<u>California adolphia</u> : Roughly 345 individuals would be impacted by the project. This is a significant impact.	Preserve approximately 40 adolphia in the eastern portion of the southern parcel. Preserve approximately 350 adolphia on the northern parcel as mitigation for impacts to the southern parcel. Require preservation of 50% to 100% of all adolphia on the northern parcel at the SPA plan level. This is a significant impact at the General Development Plan level. It is anticipated that these measures will reduce impacts to below a level of significance at the SPA level of analysis. A determination of the level of significance will be made at that time.
Biology (contd.)	<u>San Diego marsh elder</u> : Roughly 90% of an estimated total of 340 individuals would be impacted by the project. this is a significant impact.	Avoid wetlands, where this plant occurs, to the extent practicable. Implement a revegetation program for plants that are impacted. These measures will reduce impacts to below a level of significance.
Biology (contd.)	<u>Spiny rush</u> : Roughly 50% of an estimated 400 individuals would be impacted by the project. This is a significant impact.	Avoid wetlands, where the plant occurs, to the extent practicable. Enhance wetland areas to include revegetation of spiny rush for plants that are impacted. These measures will reduce impacts to below a level of significance.
Biology (contd.)	Impacts to the following sensitive plants either do not occur or are not considered to be significant: Munz's Sage, mesa clubmoss, San Diego sunflower, variegated dudleya, Cleveland's golden star, Palmer sagebrush, San Diego needle grass, and western dichondra.	No mitigation is required.

Table 1-2 (contd.)

SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Biology (contd.)	<p><u>California gnatcatcher</u>: The project would have significant impacts on the California gnatcatcher. The gnatcatcher population on the proposed site is part of a larger core population for the entire species. The project would cause direct impacts to 40 of the existing 69 pairs onsite. Other significant impacts to wildlife include fragmentation of habitat, constricted movement corridors, and impacts from pets, lighting, noise, and wildfires. This is a significant impact.</p>	<p style="text-align: center;">* *</p> <p>The impacts to the California gnatcatcher are unmitigable for the project as proposed. Partial mitigation measures include the following. Mitigate for the loss of 6 gnatcatcher pairs on the southern parcel by preserving 9 pairs of gnatcatchers on the northern parcel at this time. Require participation in the South County Natural Communities Conservation Program (NCCP) and abide by its conclusions. If the NCCP does not come to fruition, require preservation of an additional 80% to 100% of existing pairs, 80% to 100% of occupied gnatcatcher habitat, and 50% to 100% of unoccupied gnatcatcher habitat on the northern parcel at the SPA plan level. Impacts to this sensitive species remains significant even with the implementation of these measures.</p>
Biology (contd.)	<p><u>Cactus Wren</u>: The project will impact 7 of 13 occupied cactus wren territories on site. This is a significant impact.</p>	<p style="text-align: center;">* *</p> <p>The impacts to the cactus wren are unmitigable with the project as proposed. Partial mitigation measures include the following. Preserve 3 of 4 existing occupied territories on the southern parcel. Require participation in the South County Natural Communities Conservation Program (NCCP) and abide by its conclusions. If the NCCP does not come to fruition, require preservation of at least 6 of 7 cactus wren territories on the northern parcel at the SPA plan level. Impacts to this sensitive species remains significant even with the implementation of these measures.</p>

* * Impacts which are significant and not mitigable to below a level of significance with the project as proposed

Table 1-2 (contd.)

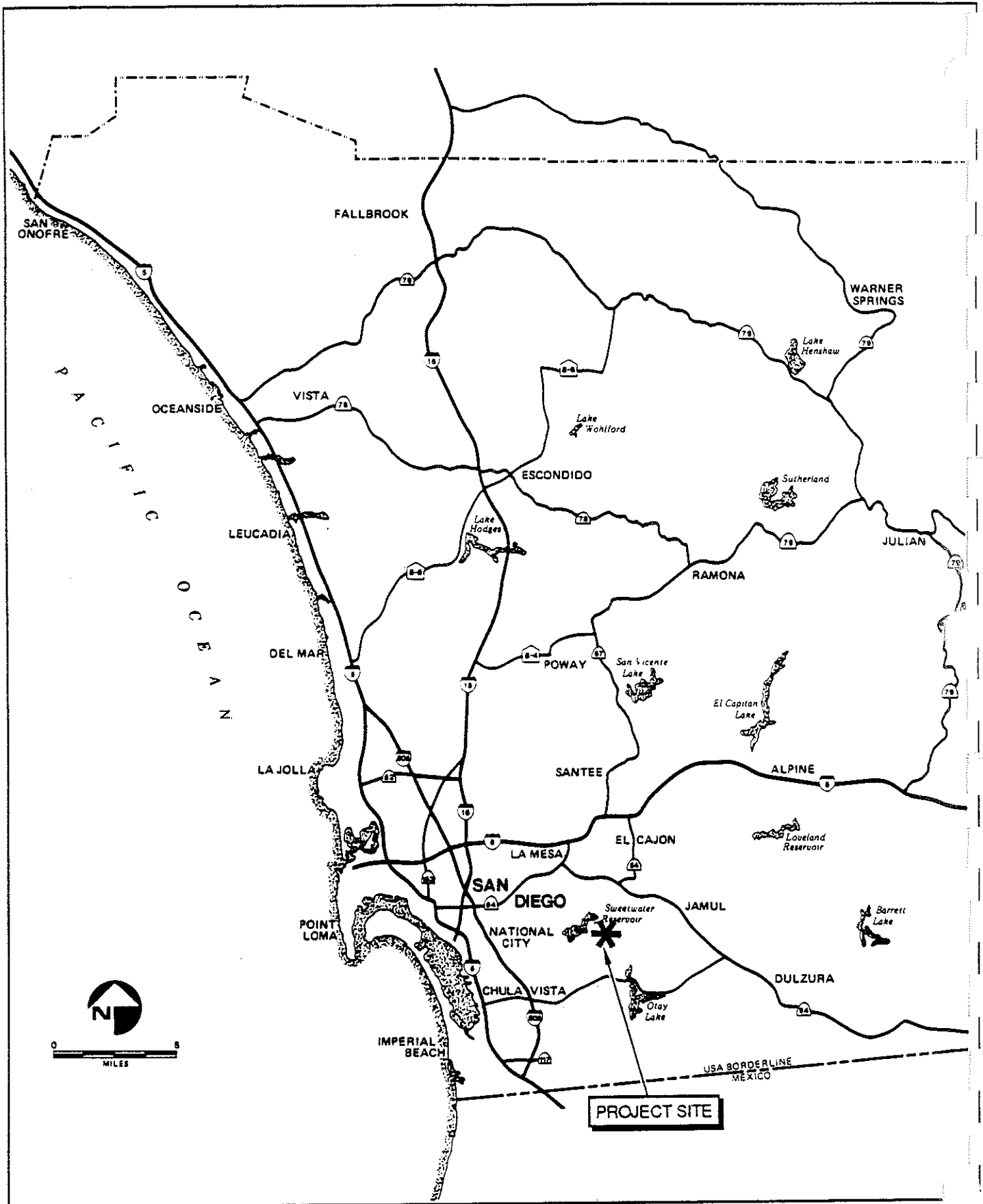
SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Traffic	Traffic that would be generated by the project is only slightly higher than that project by the General Plan. Therefore, the impacts are not significant. Road classifications for project-proposed roads have not been determined, and are not designated in the circulation element of the General Plan, and the impacts are significant.	Impacts can be reduced to below a significance by designating project-proposed roads as described in Section 3.10.
Parks, Recreation, and Open Space	The project proposes a 20.7 acre community park, which would satisfy city threshold standards requiring 3 acres of park land per 1,000 residents.	No mitigation is required.
Parks, Recreation, and Open Space	The project proposes an integrated hiking and equestrian trail system that connects to the County's regional system. The trail system would provide access into areas designated as open space that contain sensitive biological resources, creating significant biological impacts.	The biological impacts of the proposed trail system can be mitigated to below significance upon implementation of the mitigation measures described in Section 3.16
Parks, Recreation, and Open Space	Portions of the trail system are in the SDG&E power transmission easement. The City Parks & Recreation Department discourages the placement of trails in these easements.	The trail system layout and site specific designs shall be prepared in coordination with the City's Parks and Recreation Department and the Environmental Coordinator. Impacts of revised portions of the trails must be evaluated at the SPA level.
Parks, Recreation, and Open	The location of staging areas for the proposed trail system have not been finalized, and the impacts are unknown.	The location of the staging areas shall be determined and the impacts evaluated at the SPA level.

Table 1-2 (contd.)

SUMMARY OF IMPACTS AND MITIGATION

Issue	Impact	Mitigation
Parks, Recreation, and Open Space	Approximately 64% of the site is designated as open space. No significant impacts were identified for this acreage. However, about 43 acres of land currently designated as open space would be developed in the southern portion.	No mitigation is required for areas designated to be open space.



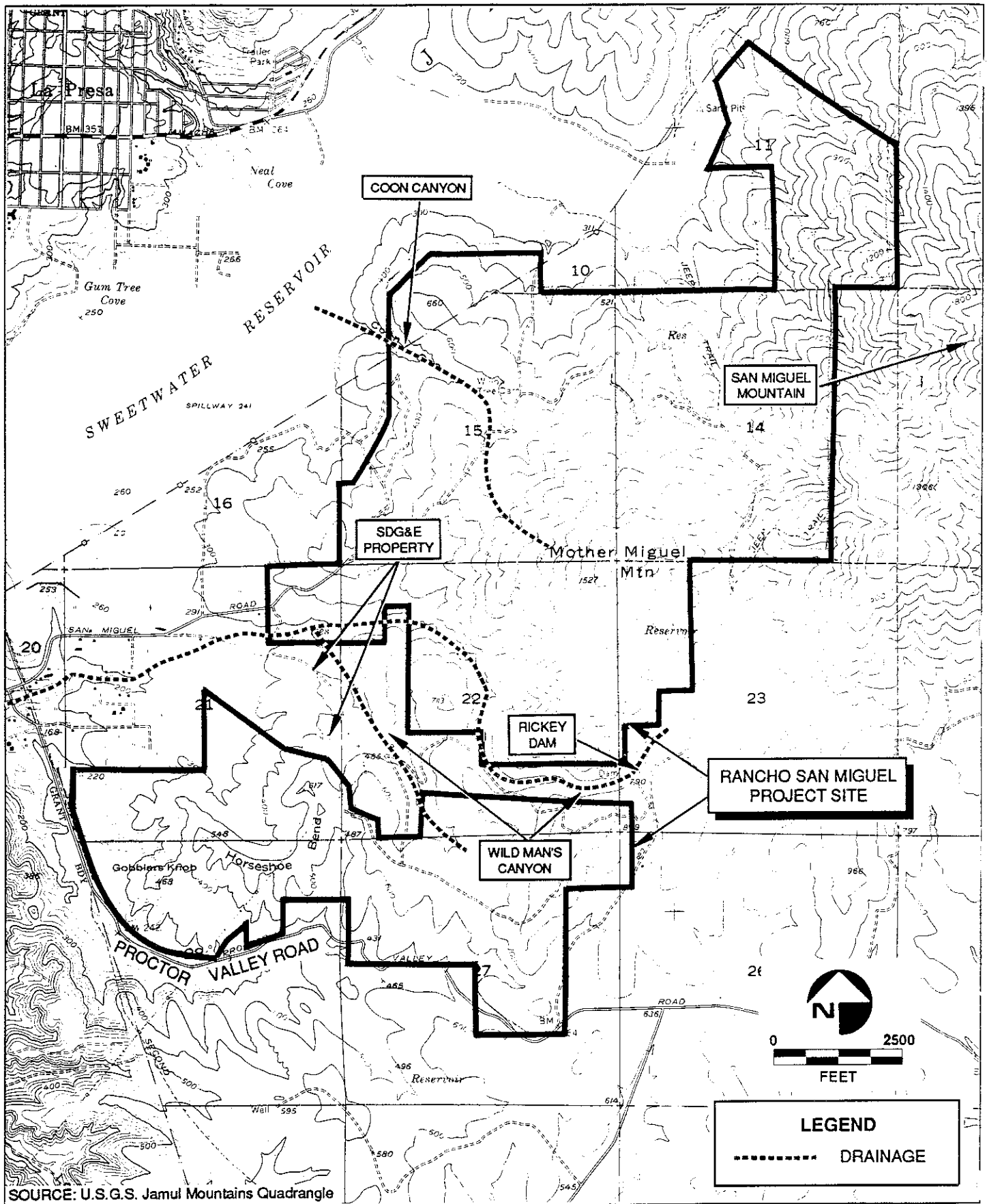
SECTION 2 PROJECT DESCRIPTION

2.1 ENVIRONMENTAL SETTING

The Rancho San Miguel project site consists of approximately 2,590 acres of property (divided into a southern and northern portion) located south and east of the Sweetwater Reservoir and adjacent to the northeastern border of the City of Chula Vista (Figure 2-1). The project site is composed primarily of steeply sloping hillsides, valleys, and Mother Miguel Mountain. The area is dominated by coastal sage scrub, mixed chaparral, and non-native grasses. The entire site is currently in the unincorporated area of San Diego County and within the City of Chula Vista's adopted sphere of influence (Figure 2-2). The property is bounded generally by Proctor Valley Road on the west and south, the Otay water treatment facility and San Miguel Mountain on the east, and the Sweetwater River and Reservoir on the north and northwest. The Sweetwater Reservoir is owned and operated by the Sweetwater Authority for drinking water storage. A caretaker's house and associated buildings with horse facilities are located in the western corner of the northern portion of the property. The northern and southern portions of the project site are separated by property owned by San Diego Gas and Electric, which contains the Miguel Substation complex and associated transmission lines. Several utility easements traverse the project site. Much of the 2,590 acres of land that make up the site have been utilized during the past 80 to 100 years as grazing land.

The majority of the site is undeveloped land. The 1,852-acre northern portion of the property includes Mother Miguel Mountain and foothills that slope to the north and west toward the Sweetwater River and Reservoir, and Coon Canyon that drains into the reservoir. The 738-acre southern portion includes the landforms Horseshoe Bend and Gobbler's Knob. Wild Man's Canyon, a narrow canyon, winds between the northern and southern portions of the development in two fingers, as shown in Figure 2-1. Elevations within the property range from 200 feet above mean sea level (MSL) to 1,527 feet above MSL at the top of Mother Miguel Mountain. More than half of the property consists of slopes in excess of 25 percent.

Vegetation onsite is characterized by coastal sage scrub, mixed chaparral, non-native grassland and riparian scrub. A majority of the northern portion consists of high quality native vegetation communities, considered to have high wildlife habitat value.



FIGURE

2-1

The site is currently under the jurisdiction of the County of San Diego, within the Sweetwater Community Planning Area. The site is zoned as S88 (Specific Plan Area, 0.28 dwelling units per acre), which is designated by the County as an impact sensitive area.

Much of the surrounding area is developed, or developing, with single-family and multi-family residences, commercial uses, and parkland. The general character of the area to the south and southwest of the project site is proposed to be low, low-medium and medium density residential, according to the City of Chula Vista's General Plan. Mother Miguel Mountain, on the site, is designated in the General Plan as open space. This area connects to the City's Greenbelt system along Salt Creek, Otay Lakes and Otay River to the south, and Sweetwater Reservoir and Sweetwater River to the west.

State Route 125 is proposed to run generally northwest/southeast through the immediate project area; the final alignment is not known at this time. Environmental review of SR 125 is ongoing. The GDP for Rancho San Miguel assumes that the alignment for SR 125 will roughly follow the existing Proctor Valley Road alignment along the western edge of the project site. This alignment is generally consistent with the Circulation Element of the City's General Plan. Alternative alignments, and their effect on the proposed project, are examined in the transportation and project alternatives sections of Draft EIR 90-02.

2.2 PROJECT OBJECTIVES

The California Environmental Quality Act requires that an EIR contain a statement of objectives sought by the proposed project, to, among other things, establish a basis for the examination of project alternatives. The project applicant has prepared the following statement of objectives of the Rancho San Miguel project:

1. Creation of a high-quality residential development that offers a diverse range of housing types in distinct neighborhoods with minimum lot sizes of 7,000 square feet, 15,000 square feet, and 3/4 acres.
2. Establishment of a large-lot residential community in the northern portion of the site that integrates development with natural open space.
3. Provision of a commercial center, community park and elementary school to serve the needs of Rancho San Miguel and the adjacent communities.
4. Implementation of significant elements of the City's General Plan as follows:
 - Preservation of open space corridors and extension of the greenbelt system proposed for the periphery of the city through the provision of approximately 1,648 acres of permanent open space;
 - Preservation of Mother Miguel Mountain which is designated as a significant landform by the City's General Plan;

- Implement regional and local circulation needs by providing for the extension of future Highway 125 and surface street connection from East H Street to Bonita Road;
 - Provide necessary public utilities and services to the area including drainage, water, sewage, schools, police, fire, parks, open space and recreation;
 - Enhance the economic base of the community and provide for convenient shopping through development of a 14-acre retail community shopping center;
 - Provide linkage to schools, parks and shopping centers through the use of bicycle and pedestrian trails as an alternative to the automobile.
5. Provision of a conference center/retreat and inn in the northern portion of the project site to serve the surrounding community and visitors to the area.
 6. Provision of a nature interpretive center to provide educational and informative opportunities to the surrounding community and visitors to the area.

2.3 PROJECT DESCRIPTION

The Rancho San Miguel GDP is principally regarded as a proposed single-family detached residential community which will provide a range of housing products with lot sizes varying from 7,000 square feet to 1 acre. Development will take place within a 1,852-acre northern portion and a 738-acre southern portion separated by SDG&E property. As revised, the project proposes 1,619 single-family residences and integrates the following proposed components: a 14-acre commercial center; an 11.9-acre elementary school site; a 20.7-acre community park; a community purpose facility; a 7-acre conference center/retreat and inn; a 6-acre interpretive center; pedestrian and bicycle trails connecting Rancho San Miguel to the surrounding community and the Chula Vista Greenbelt (see Figure 3.16-1); and approximately 1,648 acres of natural open space. Plate 1 depicts the proposed land use plan for the project as revised. Table 2-1 lists the proposed land uses (by acres and units).

Northern Portion

The 1,852-acre northern portion of the site principally consists of Mother Miguel Mountain. The Chula Vista General Plan land use map designates a substantial part of the northern portion of the project site as open space, consisting primarily of Mother Miguel Mountain and associated steeply sloping lands surrounding the mountain. The GDP proposes to limit most of the development to the foothills and plateaus on the western side of the site. The interpretive center, conference center, and inn would be constructed on steep slopes at a higher elevation (approximately 800 feet above mean sea level). Individual building envelopes would be graded for each of the proposed 357 lots; the average lot size would be 1 acre. The GDP proposes split level structures, stemwall foundations, and post and beam construction to minimize the impact of the homes. The applicant would include a brush management program; these fire modification zones are included in the discussion of fire protection in Draft EIR 90-02, Section 3 15.

The 6-acre interpretive center would be constructed on a prominent knoll on the northern side of the mountain. It would include trail heads, a parking lot, informational displays, view points, a small amphitheater, and perhaps a botanical garden. The 7-acre conference center/retreat and inn would be constructed adjacent to the interpretive center. It would include a 20- to 30-room building and approximately 20 small cottages, for a total of up to 50 guest rooms, and meeting facilities for 200.

The applicant proposes to include wildlife undercrossing areas under roadways in the northern portion to maintain wildlife access to the Sweetwater Reservoir

Table 2-1

RANCHO SAN MIGUEL
PROPOSED LAND USES

Land Use	Acres	Unit
Residential (south)		
15,000 sq. ft. lot minimum	281.6	415*
7,000 sq. ft. lot minimum	235.5	751*
Affordable	6.0	96
	523.11	1262
Residential (north)		
3/4 acre lot minimum	357.1	357
Commercial Center (south)		
140,000 sq. ft.	14.0	
Elementary school (south)	11.9	
Community park (south)	20.7	
Conference center/retreat and inn (north)	6.7	
Community purpose facility	8.5	
Permanent open space (includes nature interpretive center)	1648.2	
TOTAL:	2590.2	1619

See
Errata
for
Changes

* If part or all of the proposed 357 lots on the northern parcel are eliminated, then these numbers will be adjusted so that the total number of clustered lots within the entire project does not exceed the total number of estate lots. This will reduce the number of dwelling units within the project by up to 120. Alternatively, the applicant may apply for a General Plan Amendment proposing redesignation of portions of the site to Low-Medium Residential in order to maintain the consistency of the New Plan GDP to the General Plan.

Southern Portion

The majority of the project development would take place in the southern neighborhood. As revised, the project proposes 1,262 residential units in the southern neighborhood, with plans for a 14-acre commercial center, an 11.9-acre elementary school, a 20.7-acre community park, and designated community purpose facilities of 8.5 acres.

The southern portion was modified to incorporate a variety of design changes to the original GDP for Rancho San Miguel. These changes are described below and are represented by a corresponding number on Plate 2. Planning areas referenced in the description are consistent with those in Draft EIR 90-02.

1. Realignment of SR 125. In response to comments from the City of Chula Vista, the County of San Diego and the Buie Corporation, State Route ("SR") 125 has been realigned to be consistent with the County's General Plan location for a prime arterial. The alignment has been designated as a "Potential Transportation Corridor" because the SR 125 alignment has not been adopted at this time.

2. Deletion of Interchange. In response to comments from the City of Chula Vista, the County of San Diego and the Buie Corporation, the proposed interchange at San Miguel Ranch Road and SR 125 has been deleted from the GDP to allow CALTRANS to decide upon an appropriate interchange at a later date. This change is consistent with the Chula Vista General Plan which does not show an interchange in this location.

3. Realignment of San Miguel Ranch Road. In response to comments from City staff and Jensen's Kennels, Inc, the western alignment of San Miguel Ranch Road has been moved approximately 650 feet to the south. The original roadway alignment crossed the Jensen's Kennels property, effectively requiring relocation of the kennel. The proposed modification moves the roadway off and to the south of the Jensen's Kennels property.

4. Relocation of Commercial Site. In response to comments from Jensen's Kennels, SDG&E, City staff and public comments, the commercial site originally proposed at the intersection of SR 125 and San Miguel Ranch Road has been relocated to the southeast corner of East H Street and San Miguel Ranch Road.

5. Replacement of Commercial Site. In response to comments from City staff, County of San Diego, Jensen's Kennels, and public comments, the 16.4-acre commercial site, which was originally proposed at the intersection of SR 125 and San Miguel Ranch Road, has been replaced with large-lot residential units. The relocation of San Miguel

Ranch Road further south (paragraph No.3 above) creates a 33-acre site which is now proposed for 65 residential lots at 1.9 dwelling units per acre (20,000 square foot average lot sizes).

6. Enhancement of Slope Topography. In response to comments from City staff, the County of San Diego and public comments, variations in slope topography have been added between SR 125 and Planning Areas 2 and 3, which are located along the western edge adjacent to the SR 125 alignment.

7. Otay Tarplant Preserve. In response to comments from U.S. Fish and Wildlife Service (USFWS), the County of San Diego, the California Department of Fish and Game (CDFG), and public comments, a 15-acre Otay Tarplant preserve has been added by eliminating Planning Area 11, a cul-de-sac located in the south central portion of the site adjacent to the SDG&E easement, and 10 acres in Planning Area 3, across from Planning Area 11 and along the SDG&E easement. This creates an open space area on both sides of the SDG&E easement.

8. Public Facility Sites. In response to comments from City staff, two public facility sites have been added to the GDP, one adjacent to Planning Area 12 and one adjacent to Planning Area 15, north of East H Street.

9. Open Space Boundary Adjustment. In response to comments from City staff, the Sweetwater Community Planning Group, the County of San Diego and public comments, the open space boundary along the eastern edge of the project has been adjusted to create additional open space by reducing the size of the development area originally proposed in Planning Area 15.

10. Open Space Buffer. In response to comments from City staff and SDG&E, a new open space buffer is proposed between the residential units at the northern edge of Planning Area 14 and the SDG&E property adjacent to the north.

11. New Commercial Site. In response to comments from City staff, Jensen's Kennels, and public comments, and as described in paragraph No. 4 above, the original commercial site has been relocated to the southeast corner of San Miguel Road and East H Street. This change eliminated Planning Area 16 and replaced it with a mixed use area (14-acre commercial site and approximately 6 acres of affordable housing).

12. Planning Area 14 Boundary Adjustment. In response to comments from City staff, USFWS and CDFG, the biological issues

resulting from increasing the boundary for Planning Area 14 were mitigated to the satisfaction of USFWS and CDFG. City staff has determined that a General Plan Amendment is not required for this boundary adjustment.

13. Lot Size Changes. A greater percentage (approximately 51%) of residential lots within the Low Residential category have been provided in response to City staff's recommended "estate" lot standard (15,000 square foot minimum lot size; 20,000 square foot average lot size). Planning Areas 1, 8, 9, 10, 12A, 14, and 15 have been designated as estate areas on the Southern Parcel. The distribution of lot sizes in the Residential Low areas has been modified, as follows:

<u>Lot Sizes</u>	<u>Units</u>		<u>Area</u>	
ESTATE	North	357	357.1	
		51%		73%
	South	415	281.6	
CLUSTER		<u>751</u>	<u>49%</u>	<u>235.5</u> <u>27%</u>
TOTAL		1523	100%	874.2 100%

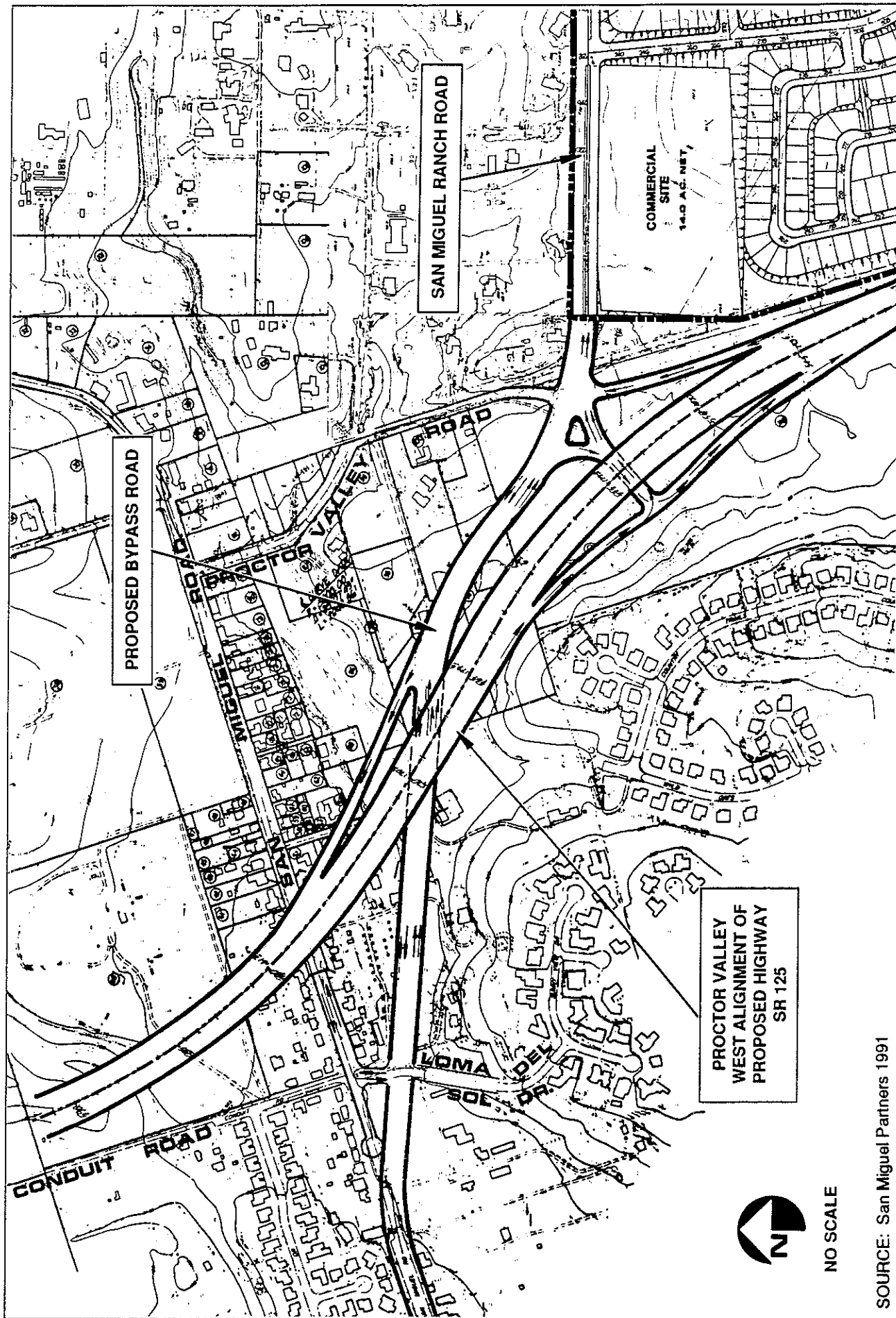
14. Estate Lot Overlay for Planning Areas 4 and 7. In response to City staff's recommended balance of estate lots vs. cluster lots within the Low Residential designated areas of the project (At least half of all lots to be estate standards) Planning Areas 4 and 7, located in the center-west portion of the Southern parcel, designated for cluster development, have had an "estate lot overlay" placed upon them. If all or a portion of the Northern Parcel estate residential development is eliminated at the SPA plan level, then these two areas, or portions thereof, shall be redesignated for estate lots (20,000 square foot average, 15,000 square foot minimum) so as to maintain a majority of the total lots in the Low Residential designated areas of the project as "estate" lots. This overlay has the potential of reducing the overall project density by up to 120 dwelling units.

See
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for
Changes

Circulation

Figure 2-3a illustrates the internal road network proposed for the Rancho San Miguel development. San Miguel Ranch Road is proposed for the southern portion in a general east/west alignment from Bonita Road to East H Street. East H Street will pass through the southeastern tip of the southern portion. Access to the northern portion will be provided via North Ranch Road. Residential roads will provide access to the interior areas of the proposed site.

Figure 2-3 shows the proposed alignment of San Miguel Ranch Road and that portion of the road that is proposed as a bypass (access) road to be located offsite to the west and adjacent to the site. The bypass portion of San Miguel Ranch Road is proposed to eliminate the need to widen San Miguel Road to provide site access. County approval would be needed to implement the access road, and an Amendment to the County's Circulation Element of the General Plan would also be required, as this roadway is not shown in the General Plan. However, the access road is consistent with the City of Chula Vista General Plan. Consistency with the Chula Vista and County circulation elements is discussed in more detail in the transportation section of this Supplement. The transportation section discusses traffic circulation in the area that will occur as a result of buildout of the General Plan and development of the proposed project.



FIGURE

2-3

Proposed Access Road and Proposed SR 125 Interchange

Project Phasing

The phasing plan for the project is shown in Figure 2-4. Phase I would consist of the community park, homes, and associated neighborhood roads located in the western half of the southern portion and the southwestern end of the northern portion. San Miguel Ranch Road would be constructed from the western project boundary in the southern portion to the western SDG&E easement. Two lanes of San Miguel Ranch Road would be connected to East H Street for emergency access only. A loop road would provide access to the school and park sites. Access to the northern portion would be provided via North Ranch Road. It is planned that community park facilities will be available for the first residents of the development.

Phase II would include the remainder of the homes and associated neighborhood roads in the northern portion, and additional homes and roads in the southern portion. San Miguel Ranch Road would be extended to provide access to homes in the central area of the southern portion via neighborhood roads.

Phase III would include the commercial development, continue the development of homes and neighborhood roads in the southern portion, and complete San Miguel Ranch Road to East H Street.

Phase IV would consist of the conference center and inn, the elementary school, and the remainder of the homes in the southern portion. The section of East H Street that passes through the southern portion will be constructed during Phase IV, unless previously developed as part of the Salt Creek Ranch project.

SECTION 3 IMPACT ANALYSIS

3.1 LAND USE

Existing Conditions

Land Use in the Project Area

The Rancho San Miguel project site is predominantly composed of steeply sloping hillsides, valleys, mesas and Mother Miguel Mountain. The area is dominated by coastal sage scrub, mixed chaparral, and non-native grasses. Existing developed land uses onsite are a house and associated structures located in the southwestern corner of the northern portion, and overhead electric power lines within two SDG&E transmission line right-of-ways that traverse the project area. Much of the 2,590 acres of land that make up the project site have been utilized as grazing land during the past 80 to 100 years.

The project site is situated on land currently under the jurisdiction of the County of San Diego within the Sweetwater Community Planning Area. The Sweetwater Community Plan (December 1988) designates the project site as a Specific Plan Area (.28 dwelling units per acre). If the applicant was seeking project approval from the County, a specific plan would be required as the county believes that the site has environmental constraints which require special land uses and/or design controls. Based on the assigned County SPA density, approximately 725 total units would be permissible on the site. The site is located within the City of Chula Vista's adopted sphere of influence, in the area defined by the City as the Eastern Territories Annexation of the project site to the City of Chula Vista will be required.

See
Errata
for
Changes

Land Use in the Surrounding Area

Existing land uses are shown in Figure 3.1-1. The 240-acre SDG&E Miguel Substation property separates the northern and southern portions of the project area. This transmission substation is of regional importance within SDG&E's service territory, providing a consistent power supply to the area with the necessary facilities for regional high voltage interconnections to power sources in Imperial Valley, Arizona and Mexico. Existing development on the SDG&E property includes the Miguel Substation complex, which is located at approximately 296 feet above mean sea level (MSL), and associated 500-kilovolt (kV), 230-kV, and 138-kV transmission lines on steel lattice towers, and 69-kV transmission lines on wood poles (Figure 3.1-2). A utility power line corridor that is not located on the property, but runs between the northern and southern portions, is developed with a 500-kV transmission line and runs from the substation east to Arizona. Two SDG&E utility easements cross the project site. A 250-foot wide easement runs northeast-southwest, and is developed with 69-, 138- and 230-kV transmission lines. A 120-foot wide easement runs south through the southern portion of the site and is developed with 230 kV transmission lines. Earth mounds have been located at key locations on the property that reduce the substation's visibility from the existing residential development to the west and northwest. Future development plans for the SDG&E property include expansion of the substation and transmission line facilities to accommodate service area

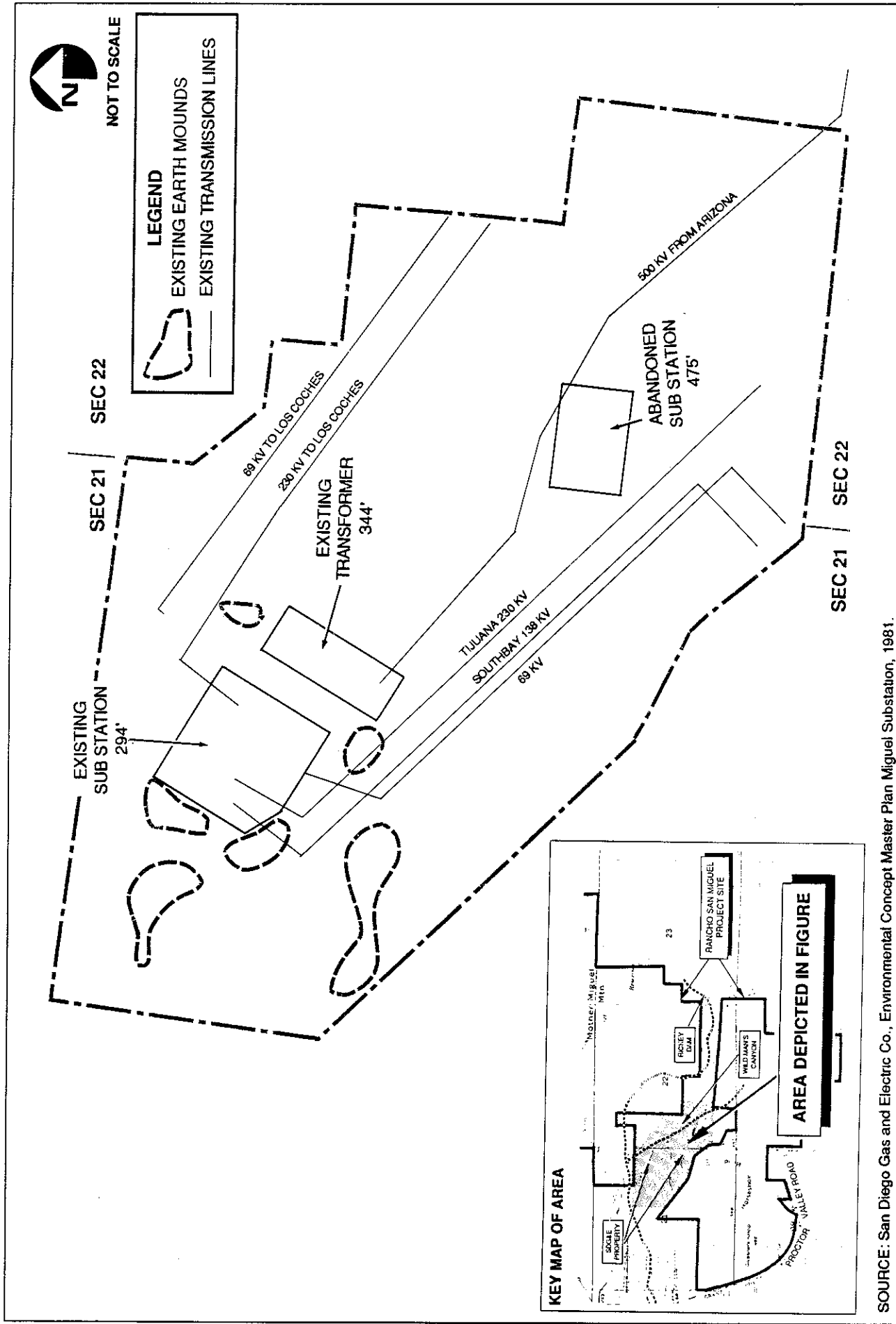
growth and system-wide operational needs, as required, and the installation of a lineman training facility.

Under the jurisdiction of the County of San Diego, the land immediately north of the project area is open space, and includes the Sweetwater River and the Sweetwater Reservoir. Several developments are located north of the Sweetwater River section that is adjacent to the northern portion of the project site. These include the La Presa area of Spring Valley and The Pointe development which are under the jurisdiction of the County. Figure 10-1 in the cumulative impacts section illustrates projects located adjacent to the Rancho San Miguel site. The area north of Sweetwater Reservoir (northwest of the project site) is under the jurisdiction of the County, and is developed with residential uses together with commercial uses along an area known as the Jamacha Boulevard corridor.

Land to the south of the project area is within the City of Chula Vista. Several projects are approved and proposed for this area. The area south and immediately adjacent to the site is the Salt Creek I development, which has been approved for residential development with a total of 550 detached and attached residential units. Salt Creek I was graded in June 1991, and extends East H Street to its intersection with San Miguel Ranch Road. Southeast of the Rancho San Miguel site is Salt Creek Ranch, a planned residential community which has received General Development Plan, Sectional Plan Area, and Tentative Map approvals. The approved Tentative Map proposes 2,662 residential dwelling units, a 25-acre community park, a fire station site, and an elementary school site. Also adjacent to the southeast portion of the Rancho San Miguel site is the EastLake Business Park. This large, partially developed site has approximately ten businesses operating. The remaining land within the business park consists of graded lots awaiting construction. A small park will be located in the center of the business park. West of the business park and continuing to Blacksmith Road are single-family homes, a swim and tennis club, elementary school, community park, and day-care center.

Land uses east of the project area are within the County of San Diego. All land east of the project area between the Sweetwater River and Proctor Valley Road is open space with the exception of two parcels of land owned by the Otay Water District which contain water treatment ponds.

Land to the west of the project site lies within the County of San Diego. Land uses along San Miguel Road include residential, open space at the Sweetwater Reservoir, and a County regional park known as "Summit Park," which contains passive uses including camping facilities.



SOURCE: San Diego Gas and Electric Co., Environmental Concept Master Plan Miguel Substation, 1981.

FIGURE

Existing Miguel Substation Facilities



Chula Vista Land Use Plans and Policies

The project site is located within the City of Chula Vista's sphere of influence, but is in the County of San Diego. The applicant is seeking project approval from, and annexation to the City of Chula Vista; therefore the land use analysis examines the project's conformance with the Chula Vista General Plan. The land use plans for the surrounding areas are also briefly discussed.

Objectives within the City of Chula Vista General Plan (July 1989a) that apply to the project include the following:

- Provide for community and neighborhood commercial centers in developing areas convenient to new neighborhoods and maintain, renovate and redevelop existing centers.
- Encourage the development of a diversity of housing types and prices.
- Assure that new development meets or exceeds a standard of high quality planning and design.
- Encourage planned developments, with a coordinated mix of urban uses, open spaces, and amenities.
- For new developments in Eastern Territories, the predominant character should be low-medium density, single-family housing. Where appropriate in terms of physical setting encourage development of quality, large-lot housing.
- Plan and implement a continuous greenbelt, open space and trail system around the city. The system should begin at the Chula Vista Bayfront, extend along Otay Valley to the Lower Otay Reservoir, extend north in two corridors, the Salt Creek Canyon and the Lower and Upper Otay Reservoirs, and connect Sweetwater Valley to the Chula Vista Bayfront. Additional open space within the general plan area should provide connections to community and neighborhood parks and schools.
- Preserve to the extent feasible natural open space areas and corridors, particularly the major canyons and valleys, as integral and functional parts of the urban pattern. Particular emphasis is placed on the canyons, stream valleys and other corridors that connect to the greenbelt system and can help to extend the greenbelt and trail system into the community.
- Refrain from development or landform alteration of the major

SUMMARY (SOUTH ONLY)

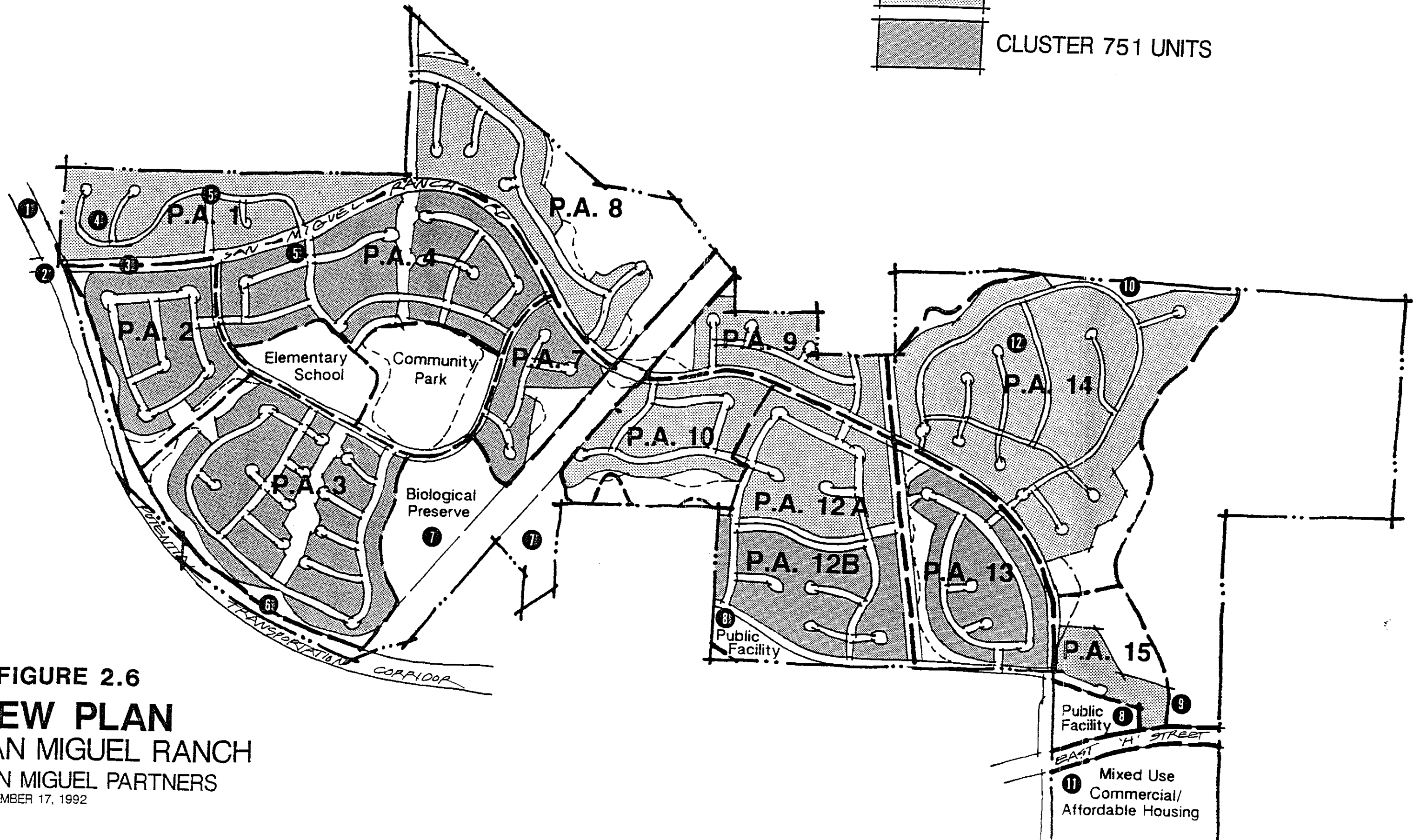
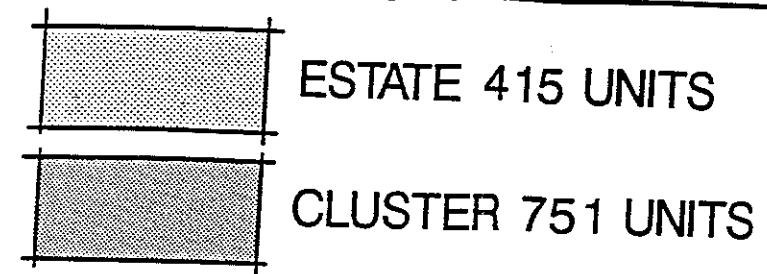
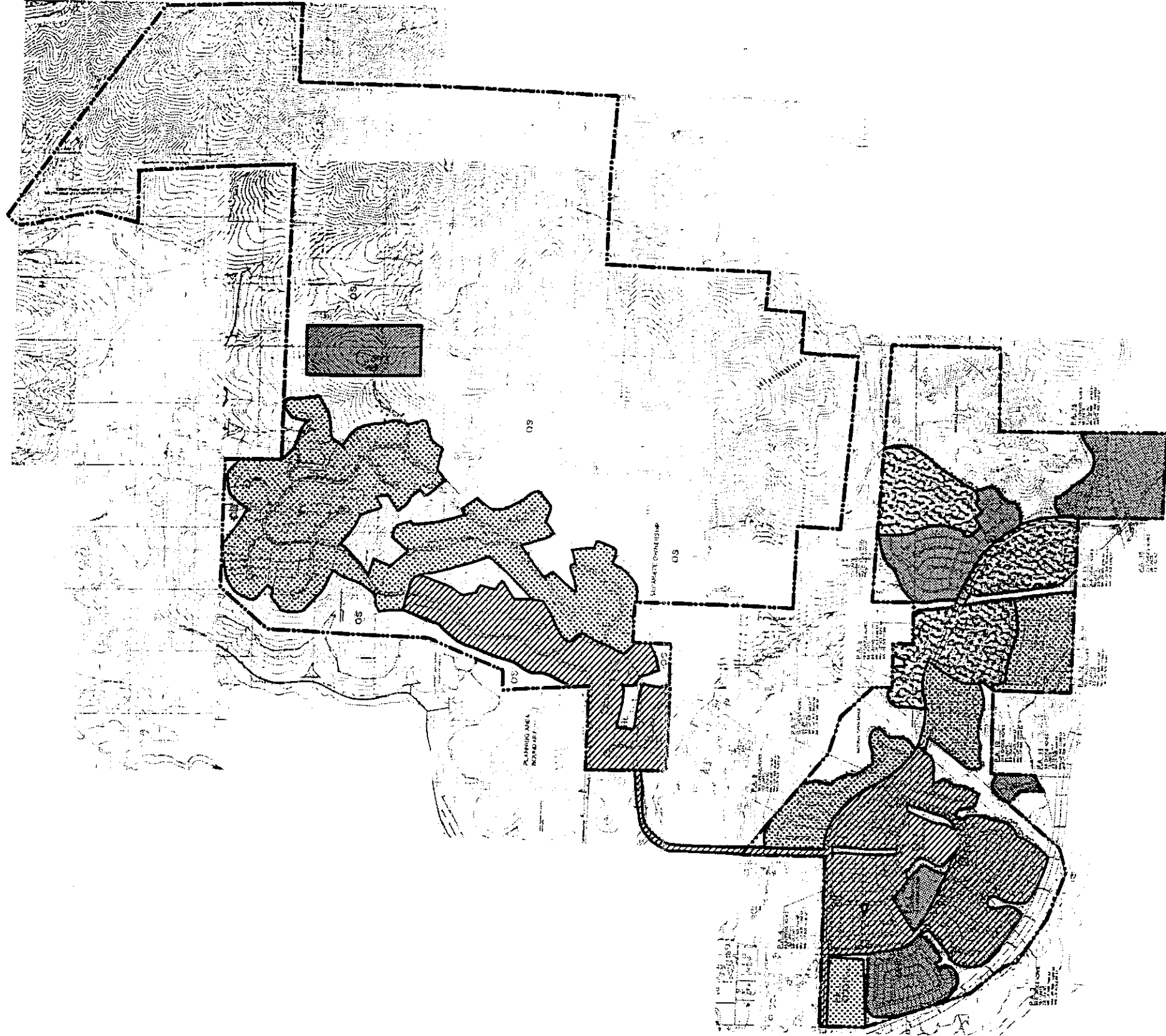
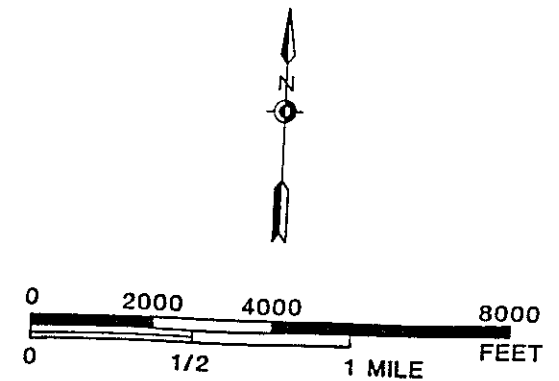
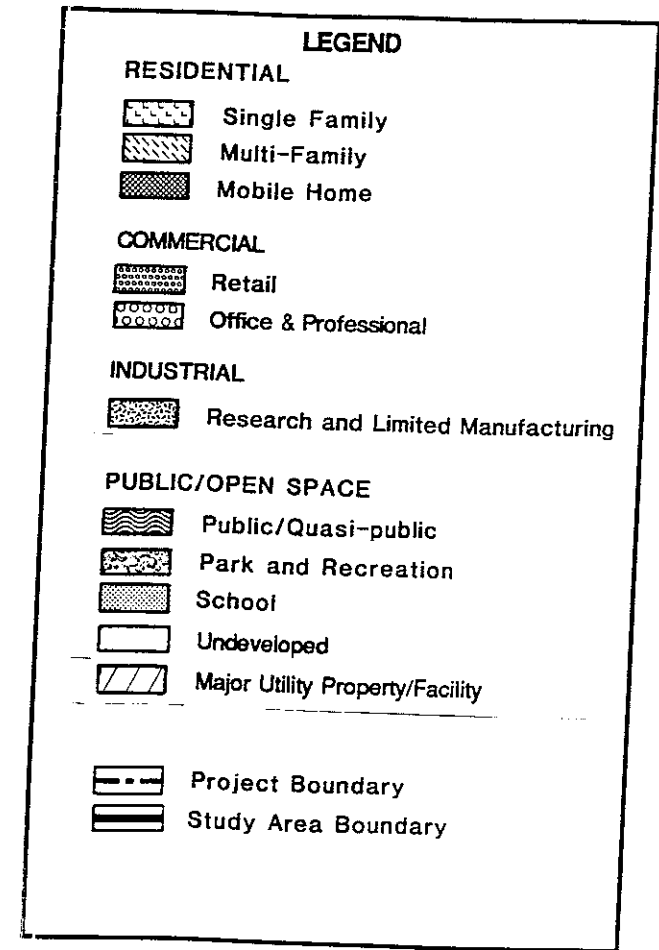
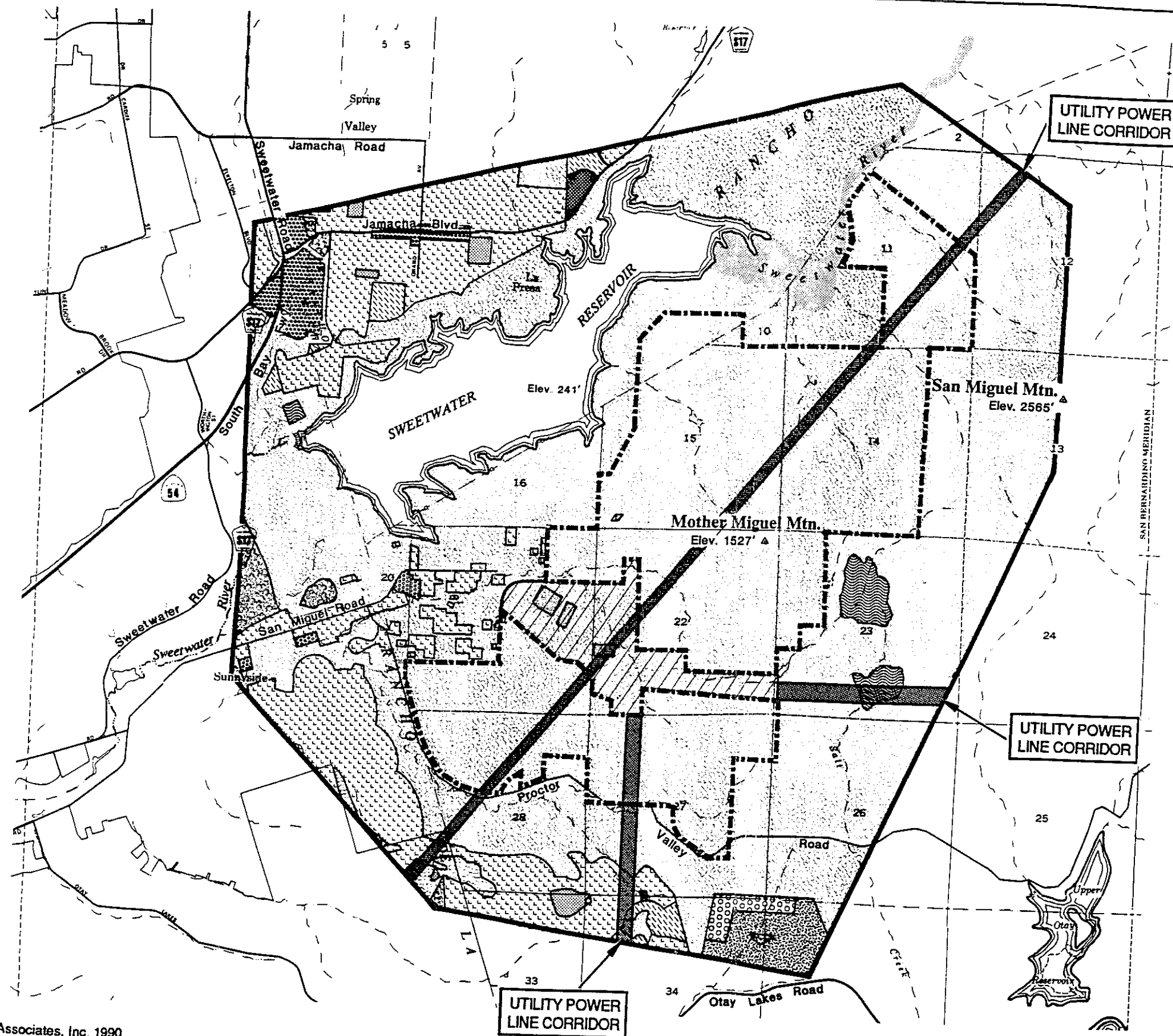


FIGURE 2.6

NEW PLAN
SAN MIGUEL RANCH
 SAN MIGUEL PARTNERS
 DECEMBER 17, 1992



NOTE: Two lanes of the Rancho San Miguel Parkway will be connected to "H" Street during Phase I for emergency vehicle access only.



SOURCE: Keller Environmental Associates, Inc. 1990

ERC
Environmental
and Energy
Services Co.

Existing Land Use

FIGURE
3.1-1

natural features of the Otay Valley, Upper and Lower Otay Reservoirs, Mother Miguel Mountain, Sweetwater Reservoir and immediately adjacent areas.

- Development of the City's hillsides shall be limited, and shall follow the Hillside Development guidelines to ensure visual compatibility and safety. These guidelines include clustering development; configuring development to the existing topography; design streets to fit the natural contour; utilize landform grading as the dominant grading method; confine grading to the building pad; replant disturbed slopes with native vegetation and continue maintenance until the vegetation is well established; site development on the least visually sensitive portion of the site to preserve the landform and views; and preserve significant hillsides in their natural state.
- Provide water conservation through increased efficiency in essential uses and use of low water demand landscaping.
- Encourage, where safe and feasible, wastewater reclamation and use of reclaimed water for irrigation and other uses.

The following objectives are stated in the Eastern Territories Area Plan, which is the community plan for Chula Vista's eastern sphere of influence:

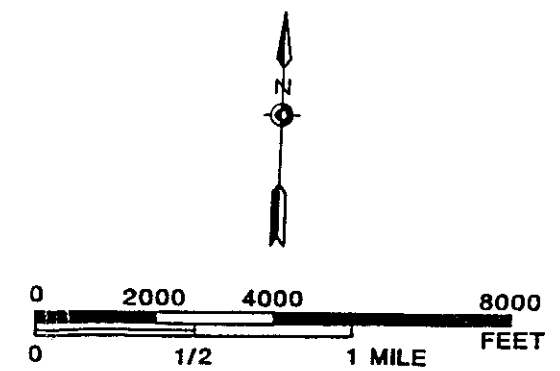
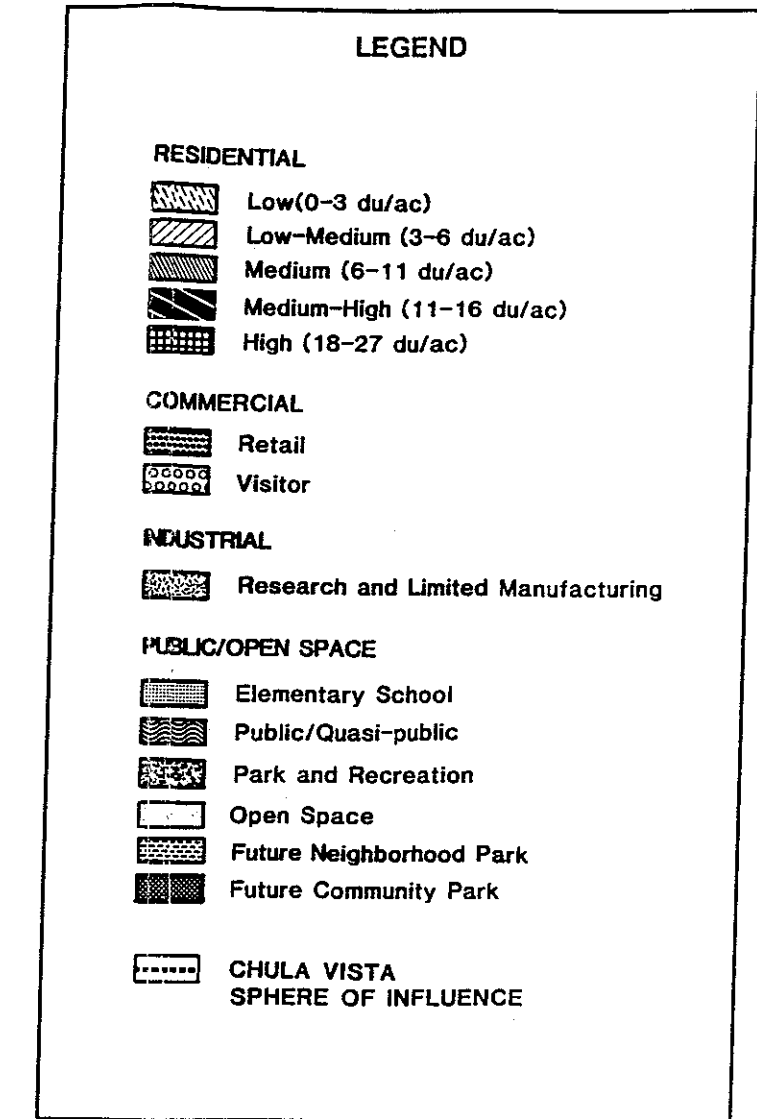
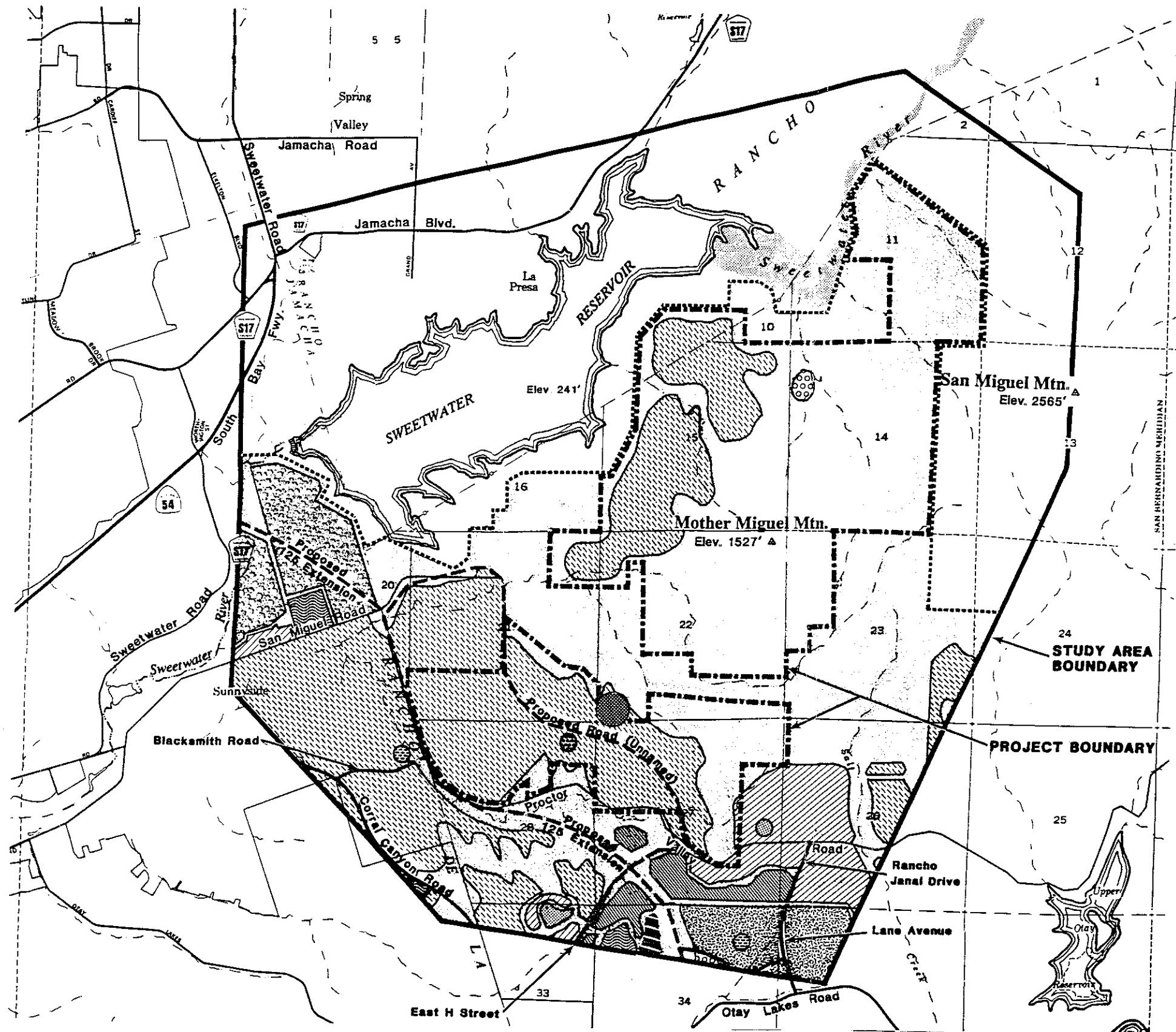
- Direct new urban development in Eastern Territories to broad mesa tops which are generally located away from environmentally sensitive areas such as flood plains, canyons and steeply sloped areas.
- Require thorough environmental reviews of all proposed conversions of vacant or agricultural land to urban areas.
- Among the areas designated in Eastern Territories for open space preservation, place the highest priority on preservation and improvement of those sections of the proposed Chula Vista Greenbelt which are located in the planning area. These are the Otay Valley, Salt Creek and associated canyons, Upper and Lower Otay Reservoirs and the adjacent drainage areas, Mother Miguel Mountain and the Sweetwater Reservoir and the adjacent drainage area.
- Create, for the planning area as a whole, a balanced community of residential, commercial and industrial uses. To the extent that employment uses may be more difficult to establish, provide for

additional designations of commercial and industrial land and encourage retention of vacant land for commercial and industrial uses.

- Assure that all new developments are provided with acceptable levels of public services. Each development should include local public facilities required to serve the development and also contribute toward construction of city-wide facilities needed by the development.
- Encourage orderly and compact patterns of development, which will make maximum use of existing public facilities and avoid "leap frog" development. In particular, encourage development phasing which will substantially build out drainage and hydrologic basins with existing public service facilities before developing new basins.
- Mother Miguel Mountain should be preserved as open space with no development on the slopes which define the mass of the mountain. Limited low density residential development may be permitted on the lower portion of the foothills situated northwest and southwest of the mass of the mountain if site planning can adequately address the hillside development guidelines, environmental issues including particularly wastewater and storm drainage away from the Sweetwater Reservoir, preservation of important views to and from the site and grading in a manner which keeps cut and fill slopes to a minimum.

Chula Vista General Plan Land Use Designations. The Chula Vista General Plan designates the project site as "Low Density Residential (0-3 du/gross acre)," with a small section in the southern portion designated as "Low-Medium Residential (3-6 du/gross acre)," and open space with community park, visitor, and retail uses (Figure 3 1-3). These land use categories are described in Section 4 of the General Plan as follows:

- Residential Low (0 to 3 Dwelling Units per Acre). This category includes single-family detached dwellings on large rural, and estate-type lots. This is the predominant character of existing residential neighborhoods within and adjacent to Sweetwater Valley. This is also the appropriate residential land use for areas with variable terrain of relatively steep slopes and the areas adjacent to the proposed Greenbelt. In addition, under the concept of cluster development, single family detached dwellings on minimum 7,000 square foot lots may be permitted.

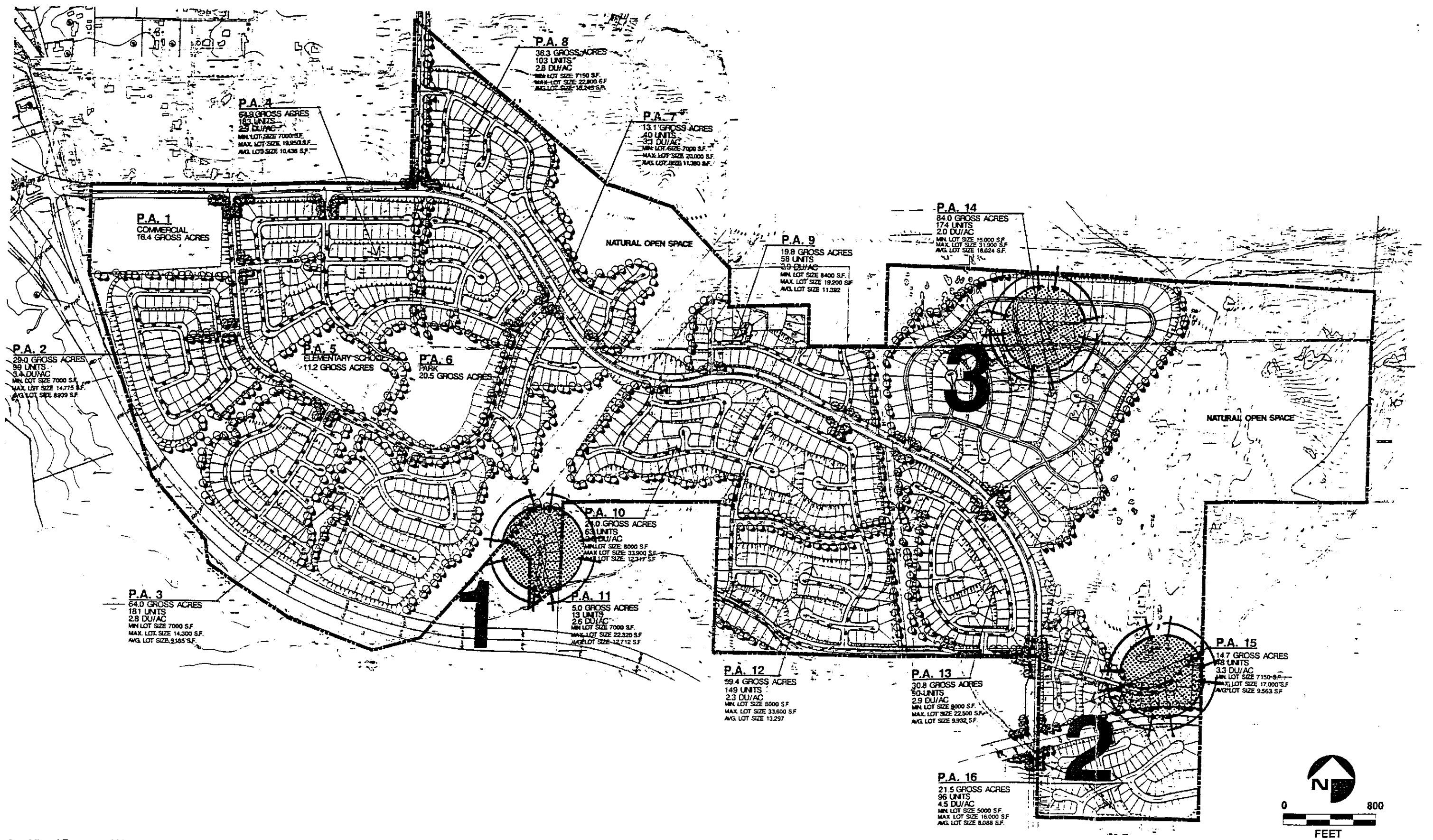


SOURCE: Keller Environmental Associates, Inc.

ERC
Environmental
and Energy
Services Co.

Chula Vista General Plan Designations

FIGURE
3.1-3



SOURCE: San Miguel Partners, 1991



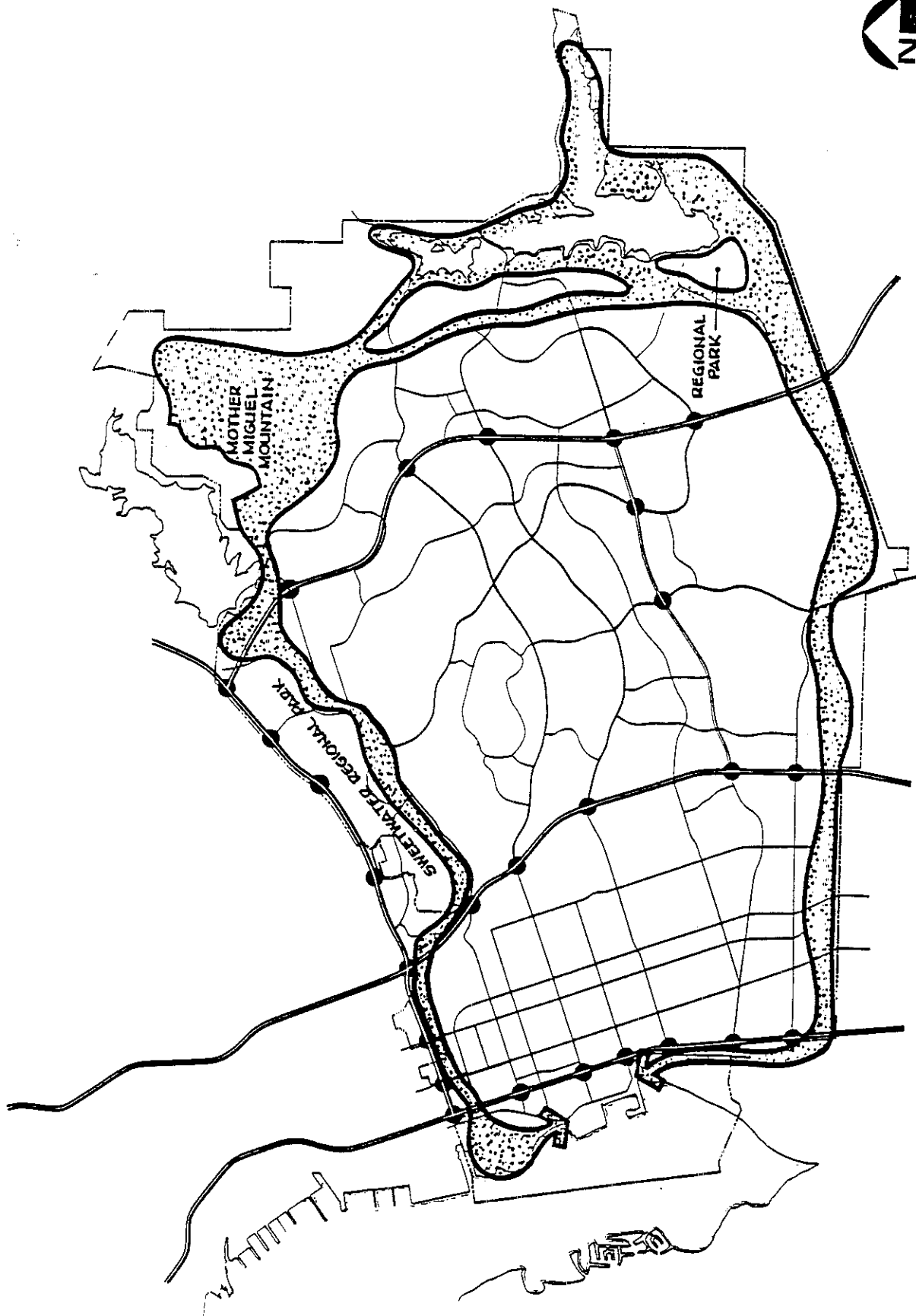
Open Space Issue Areas

FIGURE

3.1-6

- Residential Low-Medium (3 to 6 Dwelling Units per Acre). This category includes single-family detached dwellings on medium size lots as typically found in Chula Vista's existing single-family areas west of I-805. Although not a minimum or a standard, these areas are typically 7,000 square foot lots. In addition, under the concept of cluster development, single-family dwellings on smaller lots, zero lot line houses, and some single-family attached units (townhouses and patio homes) could also be consistent with this designation.
- Open space. This designation covers open space as well as limited recreation uses and rural residential and agricultural uses such as farms, orchards, pastures, and livestock raising.
- Future community park. A community park should be 15 acres or larger and provide for variety of park activities.
- Greenbelt, open space, and trail system. The greenbelt is the backbone of an open space and park system that is to extend throughout the City. The greenbelt encompasses much of the area around Mother Miguel Mountain, except for those areas in the Rancho San Miguel development designated as low density residential on the General Plan Land use map (Figure 3.1-4). Developed parks are located along the greenbelt; however, a majority of the acreage is comprised of undeveloped open space. The developed parks in the greenbelt are to be linked by a hiking and bicycle trail system forming a continuous loop around the City.
- Retail commercial. This designation includes neighborhood, community, and regional shopping centers; retail establishments, and service commercial.
- Visitor commercial. This designation includes hotels, restaurants, commercial recreation and retail.

The General Plan provides three density thresholds for residential development: baseline, midpoint, and maximum. The range of densities between the baseline and the midpoint density is defined as the lower density range. The General Plan Land Use Element contains a series of criteria to evaluate where within the range a particular project would be allowed to implement. The range of densities between the midpoint and the maximum densities is defined as the higher density range. Residential projects with densities in the higher density range can be considered to be in conformance with the General Plan only if they meet these criteria and contain features which provide exceptional and extraordinary benefits to the residents of the City as interpreted by the City Council after review by the Planning Commission.



SOURCE: City of Chula Vista General Plan, 1989



Chula Vista Greenbelt/Open Space Network

FIGURE

3.1-4

The General Plan provides the potential for the granting of density transfers in conjunction with those lands which are slated for preservation as natural open space. This density may be transferred to a residential development area at the rate of one dwelling unit per ten acres. The transfer shall not result in a gross density which exceeds the maximum density for the range.

Chula Vista General Plan Housing Element. The City expects every development with more than 50 dwelling units to explore methods to devote a minimum of 10 percent of the units to low and moderate income housing (Housing Element, Section 3.3).

Land Use Plans and Policies in the Surrounding Area

The Sweetwater Community Plan (1988) designates land to the northwest, west and south of the proposed project as (1) Residential (1 du/1, 2, & 4 ac -- the lowest urban residential density designation contained within the County General Plan); Estate Residential, which allows minor agricultural and residential uses at 1 dwelling unit per 2 and 4 acres; Multiple Rural Use (1 du/4, 8, & 20 ac); Impact Sensitive Area, which allows one dwelling unit per 4, 8, and 20 acres; and Public/Semi-Public (land owned by public agencies for such uses as parks, military bases, and schools). The Estate Residential, Multiple Rural Use, and Impact Sensitive Area plan designations are all classified as non-urban under the County General Plan.

The Chula Vista General Plan (July 1989) designates land to the west, south and southeast as low residential which allows rural housing and single-family detached homes on large, estate type lots at 0.5 to 3 dwelling units per acre, low-medium residential which allows single-family homes at 3 to 6 dwelling units per acre, medium residential which allows small, single-family homes and attached units such as duplexes and townhomes at 6 to 11 dwelling units per acre, public/quasi-public (areas occupied by schools, churches, hospitals, civic centers, fire stations) and open space.

Another plan governing the area is the Upper Sweetwater River Habitat Conservation Plan (HCP) (SANDAG 1990). This plan is part of the comprehensive Species Management Plan (CSMP) for the endangered least Bell's vireo. The Sweetwater River HCP was prepared to ensure the protection and recovery of the vireo within the Sweetwater River watershed. One of the primary purposes of the HCP was to identify and classify land uses within the study's Focused Planning Area that have the potential to affect the vireo and its habitat. Existing City and County General Plans were used to determine the zoning designation for lands within the Focused Planning Area. The HCP will be the basis for an application for a 10(a) permit from the U. S. Fish and Wildlife Service for projects in the watershed that affect the vireo.

Zoning

The project site lies outside the city's jurisdictional boundaries and therefore does not have zoning designations for the City of Chula Vista. The property will be rezoned prior to annexation to the City, and the designation recommended by the City, if

annexation is approved by LAFCO, will govern future development in the area.

This project site is currently covered by County of San Diego zoning classification S-88, Specific Planning Area (SPA) (0.28 dwelling units per gross acre). The purpose of the SPA is to ensure comprehensive planning and development to preserve and enhance the significant topographic features and resource areas found in this large, undeveloped tract of land (Sweetwater Community Plan 1988). Permitted uses within the SPA include Family Residential, Essential Services (fire protection), and limited agricultural uses (horticulture, tree crops). The County permits a maximum of 759 dwelling units on the Ranch San Miguel property.

Impacts

The assessment of land use impacts considers the compatibility of the proposed project with the surrounding land uses and the consistency of the proposed project with land use policies and designations. Related issues such as traffic, noise, and visual impacts are discussed in their respective sections of this Supplement and Draft EIR 90-02.

The proposed land uses are shown in Plate 1 and described in Section 2, Project Description. The northern portion of the project area includes residential units at a density of one unit per acre, open space, a conference center/retreat and inn, interpretive center, trails, and open space. The southern portion includes a commercial center, elementary school, neighborhood park, and residential units in neighborhoods with densities ranging from 6 to 35 dwelling units/acre for the low density residential designation, and approximately 96 affordable housing units within low-medium density residential designation.

Compatibility with Surrounding Uses

Development of the northern portion of the site is potentially incompatible with the adjacent Sweetwater Reservoir. Contaminants from urban runoff could degrade the water quality of the reservoir, which stores drinking water supplies. A runoff protection program is planned to be implemented in accordance with the requirements of the Sweetwater Authority. It is expected that this potentially significant impact will be mitigated by the program as discussed in Draft EIR 90-02, Section 3.9, Water Quality.

Future expansion of the SDG&E Miguel Substation will occur in response to service territory growth or in response to system-wide operational requirements. There is no timetable for the expansion, and the current SDG&E energy resource plan does not anticipate expansion activity within the next 5 to 10 years. Facilities that will eventually be installed as part of the planned expansion include a 500-kV switchyard that will cover 9 acres, a 7 acre compensation yard, and additional transmission lines (SDG&E 1981) (Figure 3.1-5). The number of transmission lines could potentially double in each utility power line corridor. Future transmission line development could occur independent of or in conjunction with expansion of the substation.

The lineman training facility is not a part of the future expansion, and will be located to the east of the substation on SDG&E property, adjacent to the northeastern half of the southern portion of the project. SDG&E plans to make application for the required land use entitlements next year (Siino 1991). This facility will include a one-story building, steel lattices, wood poles, and transmission lines at varying heights for use in lineman instruction.

Although the close proximity of housing to an electric substation does not create the most desirable neighborhood setting, measures may be taken to improve compatibility such as site design, grading techniques, and landscape buffering. The industrial appearance of the substation with its exposed network of towers, poles, wires, and metal latticework does not evoke a rural residential ambiance, although the SDG&E property is shown as open space in the Chula Vista General Plan. The juxtaposition of this major substation and a high-quality, low-density residential development represents a significant impact for the lots adjacent to the existing substation and the area planned for expansion.

Specific visual impacts of the SDG&E Substation facility upon the project are discussed in the Landform/Visual Section.

As discussed under Conformance to City of Chula Vista General Plan, the proposed density and lotting pattern of the southern portion, as revised to provide for estate lots with an average size of at least 20,000 square feet and a minimum size of at least 15,000 square feet in areas adjacent to existing large lot rural and estate development to the north and west, is compatible with the existing and proposed large lot rural and estate context of eastern Bonita Valley. The proposed large lots in the northern portion would also be compatible with the eastern Bonita Valley since they are average 1 acre lots. The previous proposed project also included a 14-acre retail commercial land use in the northwest corner of the southern parcel, adjacent to low-density Bonita residential neighborhoods. This incompatibility has been eliminated with the movement of the retail commercial land use to the southeastern corner of the proposed project, south of East "H" Street, adjacent to medium density townhouse development in Salt Creek I and proposed small lot single family, school and neighborhood park development in Salt Creek Ranch.

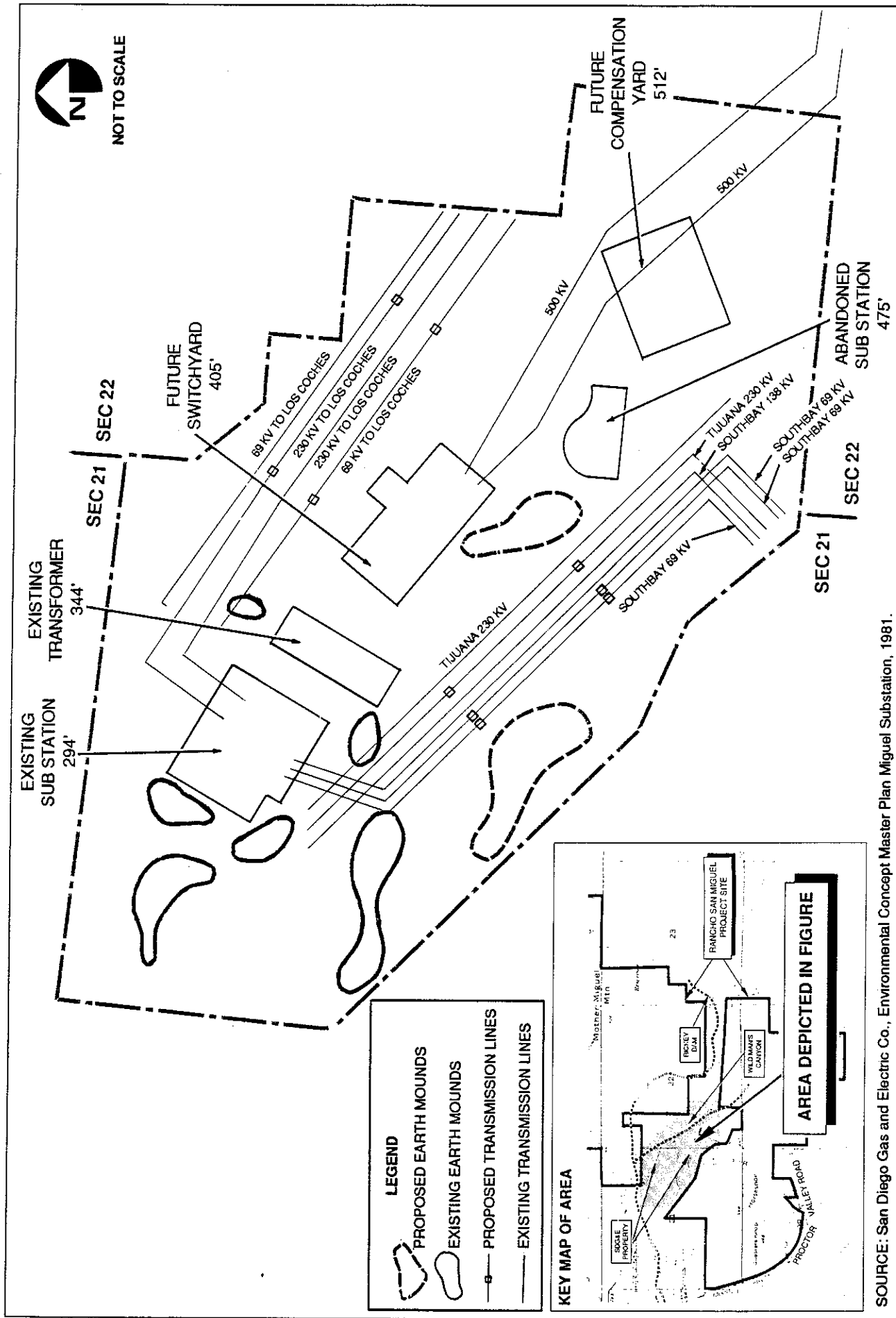
The applicant's proposed trail system incorporates existing hiking and equestrian trails on Mother Miguel Mountain, providing a linkage to the County regional trail system at the northern tip of the northern portion of the property (see Draft EIR 90-02, Figure 3.16-1 in Section 3.16, Parks and Recreation, for proposed trails map). In addition, the trail system connects to offsite trails in the surrounding areas. The project proposes both public and private trails, and equestrian trails. The proposed trail system is generally consistent with the City's regional trail system, and will connect with the system approved for Salt Creek Ranch. The proposed trail system includes trails that traverse the SDG&E substation property and transmission line easements. Numerous trail systems and public park facilities currently exist within SDG&E easements in the City of Chula Vista and other jurisdictions in the County of San Diego. However, the location of proposed and future trails within power transmission easements is discouraged.

by the City's Parks and Recreation Department. Further analysis of this issue will be required prior to SPA Plan approval. At that time, more specific development plans will be reviewed to determine if the proposed location of trails is consistent with City policies.

Electromagnetic Fields

The proximity of the proposed residential development to the SDG&E Miguel Substation complex and transmission lines raises questions as to the possible health effects of exposure to electric and magnetic fields produced by electrical power systems. The scientific community has not reached a consensus on the potential health impacts from contact with these fields; however, the biological effects have been clearly established. The health-related impacts from exposure to these fields as a result of the proposed project cannot be determined because of the speculative nature of the issue. However, CEQA permits the discussion of speculative material (Guidelines Section 15145) by stating that if after thorough investigation a particular impact is found to be too speculative for evaluation, the conclusions should be noted, and the discussion terminated. The following discussion provides a brief background regarding an environmental risk issue that is of concern to many people.

Electric and magnetic fields, collectively referred to as electromagnetic fields (EMF), exist wherever there is electric power, and are therefore, a fundamental force of nature. Natural sources of EMF include the earth's magnetic field and lightning. In addition, all cells in the body maintain large natural electric fields across their outer membrane (Nair et al 1990). Since the advent of commercial electricity in the last century, we have been increasingly surrounded by human-made fields created by the electrical generation and distribution system, as well as by appliances that operate on electrical power. Conventional wisdom has until recently held that EMF posed no threat to human health; the low power of these fields could not break chemical bonds (as x-rays do) or cause significant tissue heating (as microwaves do). However, studies over the last 15 years have demonstrated unequivocally that cell functioning can be affected by even fairly weak externally imposed low frequency electromagnetic fields (Morgan 1989, Savitz 1987).



SOURCE: San Diego Gas and Electric Co., Environmental Concept Master Plan Miguel Substation, 1981.

FIGURE

3.1-5

Ultimate Development of the Miguel Substation



Basically three kinds of studies have been conducted to test the biological effects of EMF: cellular studies under laboratory conditions, laboratory studies that expose animals to EMF, and epidemiological studies (study of disease in human populations) that look for associations between exposure to EMF and various diseases. Laboratory studies have shown that cellular processes are disrupted by exposure to EMF. Some whole animal studies suggest that EMF may affect the central nervous system. In both types of studies, the effects appear to be dependent on the intensity and frequency of the fields, duration of exposure, and possible windows of frequency where effects are noted at some frequencies but not others regardless of field strength, among other things (Nair et al. 1990). Extrapolating these results in order to predict human health effects is extremely difficult. Epidemiological studies have yielded mixed results and have been fraught with inconsistencies and poor experimental design. Several well designed studies indicate that EMF may be linked to the promotion of some cancers, but are not likely to be the initiators of cancer since the fields do not appear to cause chromosomal damage (Savitz 1987). Overall, the evidence now available is too weak to allow firm conclusions about possible health effects of EMF exposure.

While there may be some basis for concern regarding EMF exposure, a definitive relationship between cancer and EMF has not been established. Part of the difficulty lies in isolating a specific environmental factor from the multitude of factors that could contribute to cancer, including pollution, chemical additives, genetics, and appliance use within the home, as well as general lifestyle characteristics such as smoking and diet. Clearly there is a need for further research.

The California Department of Education for schools planning recommends buffer distances from the edge of power line rights-of-way to developed areas such as buildings and playgrounds. These recommended buffer distances are: 100 feet for up to a 130 kV powerline; 150 feet for a 130 kV to 230 kV powerline; and 250 feet for a 230 kV to 345 kV power line (no recommendations have been developed for 500 kV powerlines or greater).

Conformance to City of Chula Vista General Plan

Draft EIR 90-02 identified a number of General Plan consistency issues. These issues were outlined in a staff memorandum dated July 24, 1991, entitled "San Miguel Ranch General Consistency Analysis." This analysis was then updated by staff in a March 24, 1992 issue paper entitled, "San Miguel Ranch General Plan Consistency Issues Report." City staff's latest update is found in the staff report to the GDP hearing dated September 30, 1992, and in an issue paper entitled "Mitigation Concept Plan General Plan Consistency Issues", which is an exhibit to the staff report.

Based upon this prior analysis, City staff and the applicant agreed to further modifications which resulted in a redesign of the southern portion to satisfy staff's recommended "estate" lot range of at least 50% for the Low Residential designation. In addition, should the "estate"-size lots on the Northern Parcel be eliminated or reduced in number, two residential areas (Areas 4 and 7) which are proposed for "cluster"

development (minimum lot size 7,000 square feet) will have an "overlay" which requires their complete or partial conversion to "estate" lot sizes (20,000 square feet average, 15,000 square feet minimum) in order to maintain a minimum of 50% "estate" lots for the Low Residential portion of the project. Alternatively, the applicant may apply for a General Plan Amendment, proposing redesignation of portions of the site to Low-Medium Residential in order to maintain the consistency of the New Plan GDP to the General Plan, which would be the subject of additional environmental analysis if such an application is filed. As a result of these changes, the New Plan emerged as the proposed land use plan for the southern portion of the project. Based on an analysis of that plan, City staff has determined that the southern portion as revised is consistent with the General Plan.

The General Plan issues which have been modified by the New Plan include:

1. Character of Development (Section 4.1 of the Land Use Element)

Section 4.1 of the General Plan establishes the residential land use categories and the range of density permitted within the category. A Residential Low designation exists over the residential portions of the project, excluding a small portion south of East H Street. Section 4.1 states that: "This category includes single-family detached dwellings on large rural, and estate-type lots. This is the predominant character of existing residential neighborhoods within and adjacent to the Sweetwater Valley "

The General Plan does not numerically define the size of a "large rural or estate-type" lot. The only numerical restriction within the plan language applies to clustered lots which must be a minimum of 7,000 square feet. Staff believes that an appropriate numerical definition for "large rural or estate-type" lots can be found in the Chula Vista Zoning Ordinance with the standards for the R-E Residential Estates Zone. This Zone requires lot sizes to average at least 20,000 square feet, and allows up to 25% of the proposed lots to be between 15,000 and 20,000 square feet. The applicant's proposed project includes a majority of lots within the entire project which meet or exceed this definition. The remainder of the proposed lots meet the clustering test of the Low Density Residential Plan Category in that they have a minimum size of 7,000 square feet.

Under the new plan, 51% of the units and 73% of the site area will be utilized for estate housing, with 49% of the units and 27% of the area for clustered development. City staff has determined that this is consistent with the Residential Low designation in the General Plan and the character of the adjacent Sweetwater Valley by maintaining the predominant character of the project as a large lot development.

2. Calculation of Mid-Point and Density Transfer (Section 6.2 of the Land Use Element)

Section 6.2 of the General Plan states that a "transfer of density is permitted from an open space area designated on the General Plan, within the boundaries of a project. This density may be transferred to a residential development area at the rate of one dwelling unit per 10 acres."

The project contains approximately 1,490 acres of open space in the northern parcel, which is consistent with the designation on the General Plan. A density transfer may thereby be permitted for up to 149 units. Of the 149 unit transfer opportunity, the applicant had been seeking to transfer 35 units from the Northern Parcel to the Southern Parcel.

The applicant has agreed to withdraw its request to transfer open space density from the northern parcel. The applicant has reduced the density in Neighborhood B from 1,296 units to 1,262 units. The project's total density is 1,619 units, which is consistent with the mid-point density calculation under the General Plan.

3. Establishing Residential Densities (Section 6.2 of the Land Use Element)

The appropriate density for any proposed project is assumed to be "baseline" and "may move toward the upper end of the range" depending upon the project's adherence to the following issues: (a) Compatibility with existing and proposed surrounding land use patterns; (b) Sensitive response to the physical characteristics of the site; and (c) Achievement of a variety of housing types.

The proposed density in the Residential Low areas of the project is 1.6 units per acre (1,523 units on 933.5 acres), a density which is below the "mid-point" of 2 du/acre. The project adheres to the stated issues as follows:

(a) Compatibility with Existing and Proposed Land Uses

The existing and proposed land use patterns in the project area include developments in the Eastern Territories such as Salt Creek I to the south at 6 du/acre and Salt Creek Ranch to the southeast at 3.6 du/acre. The proposed 1.6 du/acre for this project is therefore significantly less than the density allowed in adjacent projects.

(b) The northern parcel contains lots consistent with the neighboring Bonita area where lots are typically larger (one acre minimum).

The portions of the southern parcel adjacent to the neighboring Bonita area are larger "estate" lots which are compatible with the estate and rural lots to the northwest of the southern parcel. Also, the development maintains the largest lots on the northern parcel near the Sweetwater Reservoir area.

Sensitive Response to the Physical Characteristics of the Site

The proposed grading of the project is consistent with the objectives of the General Plan. The northern portion proposes minimal grading, using contour grading methods and minimal site disturbance without mass grading. The southern portion is proposed for significant grading, including the elimination of Gobbler's Knob and significant alteration of Horseshoe Bend, but these landforms are not noted as significant by the General Plan, and, if preserved, would create a barrier to the cohesion and continuity of the proposed project. The applicant has also provided a key link in the Chula Vista Greenbelt through internal trails and pathways to ensure access to the residents of the City of Chula Vista to this major greenbelt system. In addition, approximately 1,648 acres of open space are proposed, which constitutes 64% of the project site. In addition, the landforms of Mother Miguel Mountain, Wild Man's Canyon, and the ridgeline separating San Miguel Ranch from Salt Creek Ranch will be maintained in an undisturbed open space condition as required by the General Plan.

(c) Achievement of a Variety of Housing Types

The project provides lots with minimum 3/4 acre, 15,000 sq. ft., and 7,000 sq. ft. lots in 13 separate neighborhoods. The average lot sizes in each neighborhood range from a low of 8,000 sq. ft. to a high of 1 acre. The diversity of lot sizes within any given neighborhood provides for a variety of lot layouts and sensitive response to the topography.

The project as revised demonstrates compatibility with existing and proposed surrounding land use patterns, a sensitive response to the physical characteristics of the site, and the achievement of a variety of housing types consistent with the character of the range, at a mid-point density.

4. Clustering of Residential Development (Section 6.3 of the Land Use Element)

Section 6.3 states "The concept of residential clustering involves the aggregation of dwelling units onto a reduced land area in order to achieve a more sensitive

response to the site, and provide additional amenity for the project residents, in the form of open space and recreational opportunities." The General Plan encourages clustering of residential development where the clustering accomplishes the following: (a) preservation of the natural landform; b) aggregation of open space within the development for amenity and recreational purposes; and (c) enhancement of land use, visual and functional quality, and livability of the project.

The project as revised meets these requirements:

- (a) Preservation of natural landform - The preservation of over 25 acres of Horseshoe Bend is the appropriate use of aggregation of dwelling units on a reduced land area. In addition, the set-aside of 10 acres for an Otay tarplant preserve creates an additional open space area being maintained in its natural state. Further preservation of Horseshoe Bend and Gobbler's Knob would disrupt the continuity of the overall project, since they essentially split the southern parcel.
- (b) Aggregation of open space within the development for amenity and recreational purposes -- The clustered areas are focused around a school and park facility consisting of approximately 32.6 acres, with greenbelts radiating out from the central core. The greenbelt areas range in width from 50-200 feet, providing mini-park opportunities as well as connections to the Chula Vista Greenbelt System. Further refinements of this concept will be considered at the Sectional Plan Area (SPA) Plan level of review for the proposed clustered lot areas.
- (c) Enhancement of land use order, visual and functional quality, and livability, of the project -- The project has preserved over 35 acres as additional open space, all of which is currently designated on the General Plan Land Use Diagram for residential development. In addition, the proposed greenbelt system enhances land use order, visual and functional quality and livability, while providing a community focus.

5. Hillside Development (Section 6.5 of the Land Use Element)

Section 6.5 states "It is the intent of the General Plan to focus urban development on the City's mesa land and respect, preserve and maintain natural, topographic features. Significant, highly visible hillsides in particular are a fairly rare topographic feature in the general plan area."

Figure 1-3 of the General Plan indicates that the southern parcel is within the rolling hills and broken mesas area on which "the intent of the General Plan" is

"to focus urban development."

The applicant has attempted to sensitively grade the property including clustering development, mirroring existing topography with its grading, varying lot sizes, placing streets in relationship to existing contours, using landform grading techniques, minimizing large cuts and fills, and preserving the landforms of Mother Miguel Mountain and the ridgeline between San Miguel Ranch and Salt Creek Ranch.

While the landforms of Horseshoe Bend and Gobbler's Knob are not being preserved, it has been determined that these landforms are not noted to be significant by the General Plan. In addition, preservation of these landforms and their use for housing which meets the hillside development standards would disrupt the overall cohesiveness of the proposed project, require movement of San Miguel Ranch Road from its optimal alignment, and create potential erosion problems due to the geological nature of these proposed landforms. (See further discussion of these landforms under Landform/Visual Section)

6. Land Development (Section 7.7 of the Land Use Element)

Landform grading is defined as "a contour grading method which creates artificial slopes with curves and varying slope ratios designed to simulate the appearance of natural surrounding terrain "

The New Plan modifies the proposed slopes interfacing between Planning Areas 2 and 3 and the potential transportation corridor to more fully reflect landform grading techniques. The north parcel consists of entirely landform grading techniques. The applicant is proposing a maximum height of 30 feet on the internal slopes throughout the graded plateaus in the southern parcel. Final analysis of the landform grading techniques used will be undertaken at the SPA Plan review level.

Affordable Housing: The GDP designates a portion of the project south of East H Street for affordable housing. Section 3.3 of the General Plan Housing Element requires developers of projects with more than 50 dwelling units to explore methods to devote a minimum of 10 percent of the units as low- and moderate-income housing. Based upon this requirement, the project applicant must work with the city to explore and identify methods for providing affordable units. The project applicant has made a commitment to comply with the City's affordable housing performance criteria (Gatzke, Mispagel and Dillon 1991). An acceptable housing program shall be developed and evaluated at the SPA Plan level. The City has required the project applicant to indicate in the GDP how affordable housing requirements will be achieved. Based on these indications, City staff can begin to work with the project applicant to refine a program through the SPA Plan and Tentative Map levels.

Community Purpose Facility: Two community purpose facilities have been proposed for the southern portion of the property. The Chula Vista Municipal Code Ordinance 2452A defines a community purpose facility as a structure for assembly within a planned community. The ordinance requires a total of 1.39 acres of net usable land (including setbacks) per 1,000 population to be designated for such facilities in any planned community. Based on this factor, the project would be required to designate 8 acres for community purpose facilities. As revised, the project satisfies this requirement by proposing 8.5 acres for community purpose facilities. The ordinance mandates that the facility be designated in the SPA Plan for each planned community, and the appropriateness of the proposed locations for proposed community purpose facilities will be evaluated as part of the SPA plan.

The project's consistency with the city's park and open space policies is discussed in this Supplement, Section 3.16, Parks and Open Space.

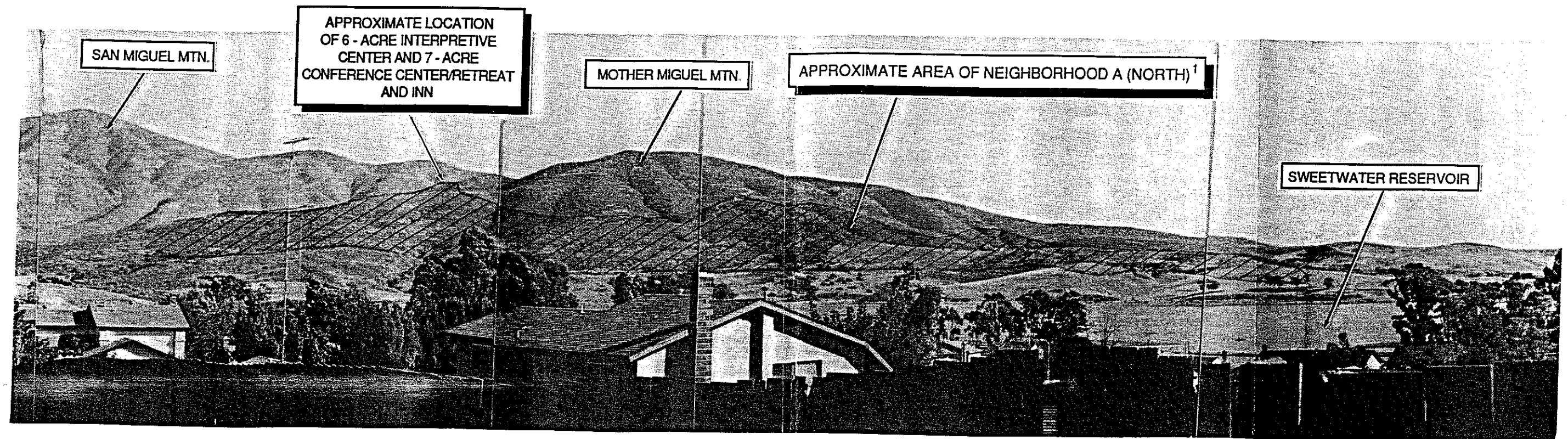
Mitigation

To mitigate the impacts of development of the northern portion within the Sweetwater Reservoir watershed to below a level of significance, the project applicant must develop stormwater management plans, including a proposed runoff protection system, for approval by the Sweetwater Authority, as discussed in Draft EIR 90-02, Section 3.9, Water Quality.

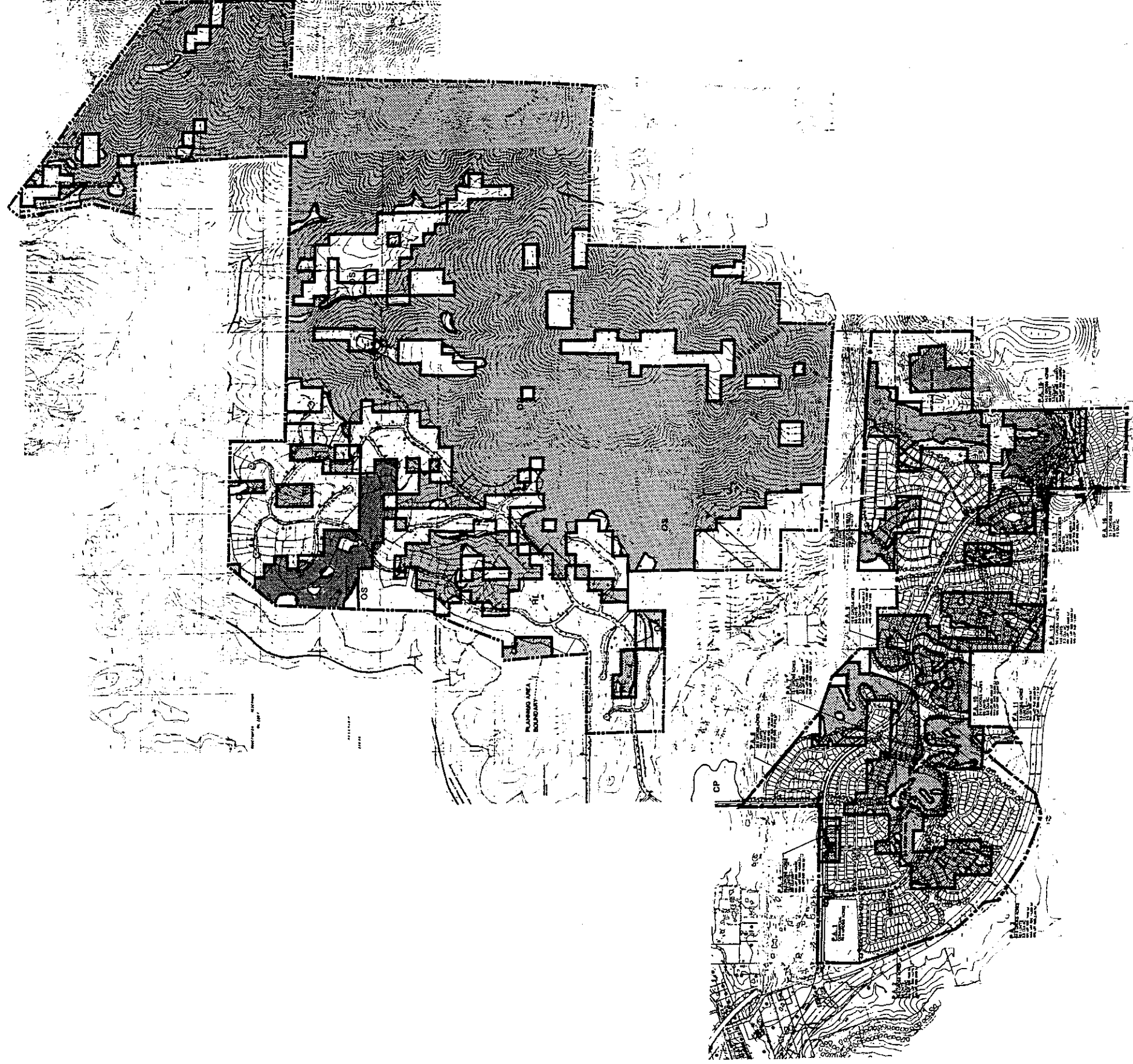
To reduce general land use impacts associated with locating residential lots adjacent to a large electrical substation to below a level of significance at the General Development Plan level of review, the applicant shall implement the measures listed below:

- Provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper describing future SDG&E expansion plans, to the extent feasible. Provide buyers of these lots with a Grant Deed containing a provision describing future SDG&E expansion plans, to the extent feasible. This requirement will ensure that information regarding SDG&E's future expansion plans are disclosed to all subsequent home buyers. The Rancho San Miguel CC&Rs shall also contain information regarding the expansion plans for the SDG&E substation to provide disclosure to subsequent home buyers.
- Achieve general visual separation through a comprehensive buffer plan at the SPA plan level of analysis which includes measures such as landscaping, significant topography variation (including use of natural topography as well as berming), and homesite orientation for houses near the SDG&E property. Specific measures proposed by SDG&E are as follows:


Establishment of separation of development setback incorporating landscaped greenbelt or residential collector street;

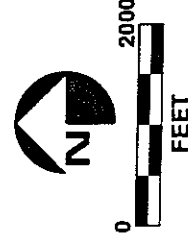


¹ See Plate I for lot boundaries, and General Development Plan for extent of development and actual area of disturbance.



LEGEND

 LAND WITH GREATER THAN 25% SLOPE



Achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses near the substation property;

Utilization of graded materials to construct view screening landscaped mounds;

Provision for SDG&E to view the final plans so that visual impacts can be better determined and, at that time, additional landscaping and screening may be necessary to mitigate visual impacts.

- Provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvements on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance
- Continue to coordinate with SDG&E throughout the processing of SPA Plans for this project.
- Obtain the applicant's commitment to not oppose SDG&E's decision to process its expansion plans through the City provided that: (i) this project's processing time is not delayed as a result of SDG&E's processing; (ii) the City treats the two projects as separate processes, with separate hearing schedules; and (iii) SDG&E's processing is not conducted at the applicant's expense.

Two additional measures are suggested by SDG&E to mitigate impacts of the future expansion of the substation facility:

- Location of commercial center adjacent to the southwest boundary of the substation.
- Location of Bonita Miguel Road (San Miguel Ranch Road) adjacent to the southwest boundary of the substation;

However, these measures would require a significant redesign of the proposed project and are not proposed to be included. It is the recommendation of staff that these measures are not necessary in order to mitigate the issue of land use compatibility with the SDG&E facility to below a level of significance.

Implementation of these measures will reduce the land use impacts of this project to the SDG&E substation facility to a level below significance at the GDP level; however, this issue will be analyzed anew at the SPA plan level of analysis, which is the next regulatory planning level required by the City of Chula Vista, in order to determine the significance of this impact after the applicant has complied with the mitigation measures contained within this GDP EIR.

These measures do not address the issue of EMF, which was determined to be too speculative for conclusions regarding environmental impacts.

To mitigate the impacts associated with the provision of trails on SDG&E easements, more specific development plans will be reviewed at the SPA Plan level to determine if the proposed locations are consistent with City policies to minimize use of trails within SDG&E easements.

The impacts related to inconsistency with the General Plan associated with the original proposed project have been mitigated with the revisions to the proposed project contained within the New Plan.

Consistency with the General Plan's affordable housing provisions shall be achieved upon satisfying the City's performance criteria at the SPA Plan level. Ensuring consistency with the Housing Element of the City's General Plan will require that the project applicant explore, in an affordable housing program, methods to devote 10 percent of the dwelling units to low and moderate income housing; provide equivalent offsite mitigation; or pay fees as determined through the submission of a proposal as part of the SPA Plan processing. This proposal shall be responsive to the City policies concerning affordable housing that may be in effect at the time of the SPA Plan processing.

Analysis of Significance

Potential land use impacts related to contamination of Sweetwater Reservoir from urban runoff would be reduced to below a level of significance by the measures described in Draft EIR 90-02, Section 3.9, Water Quality. Impacts associated with locating residential lots adjacent to the SDG&E Miguel Substation and placing trails on SDG&E easements will be reduced to below a level of significance by the proposed mitigation. Revisions to the originally proposed plan contained within the New Plan have reduced the formerly significant land use impacts related to General Plan consistency to below a level of significance. The issue of affordable housing will require subsequent review at the SPA Plan level.

3.2 LANDFORM/VISUAL QUALITY

Existing Conditions

Landform

The landform of Chula Vista is comprised of three general types: the coastal plain, which extends from the bay to Interstate 805; low rolling hills and mesas cut by drainages between Interstate 805 and Otay Lakes; and the mountain foothills, mostly east of the general plan area. Mother Miguel Mountain is in the northeast portion of Chula Vista's sphere of influence. The Sweetwater River forms the northern boundary of the sphere of influence.

The northern portion of the project site encompasses Mother Miguel Mountain (refer to Figure 2-1). Mother Miguel Mountain is designated by the County of San Diego as a Resource Conservation Area (Sweetwater Community Plan 1988). Elevations in the northern portion range from 1,527 feet above mean sea level (MSL) at the peak of Mother Miguel to approximately 400 feet above MSL in the western foothills. Coon Canyon is located between Mother Miguel and Sweetwater Reservoir. The southern portion of the project site is located in the transition from Mother Miguel to the rolling hills characteristic of much of the Eastern Territories. Major landforms in the southern portion include Gobbler's Knob at 468 feet above MSL and Horseshoe Bend, a curved ridge at approximately 550 to 620 feet above MSL. Wild Man's Canyon originates in the southern portion of the project site, and extends through SDG&E property. A large northern tributary of Wild Man's Canyon originates east of Mother Miguel Mountain, and separates the two portions of the site.

Visual Quality

The project site is virtually undeveloped with the exception of several roads, trails, and a house with associated outbuildings. The SDG&E Miguel Substation complex separates the northern and southern portions, and is screened from several directions offsite by intervening topography. Residents located directly west and southwest have unimpeded views of the site that include Gobblers Knob, Mother Miguel Mountain, and the western and southern slopes of Horseshoe Bend. The site is also highly visible from the north side of Bonita Valley and Highway 54 at Sweetwater Road. Several developments have been approved to the south and southeast of the project site. Future residents will have views of the site that include Mother Miguel Mountain.

The Chula Vista General Plan has designated East H Street from Interstate 805 to Hunte Parkway as a scenic road. Some of the best views of Mother Miguel and San Miguel Mountains can be seen from East H Street, according to the City's General Plan. The road extends eastward through Rancho Del Rey, EastLake and Salt Creek I, passing through the southernmost tip of the Rancho San Miguel site, and continuing through a portion of Salt Creek Ranch to Hunte Parkway.

Policies

The Chula Vista General Plan includes the following policies on landform grading and visual quality, which impact the proposed project.

- Policy 6.2 of the Land Use Element discusses establishment of residential densities within the general plan range. One of the prime factors in determining residential density is, "Sensitive response to the physical characteristics of the site having to do with landform preservation, including adherence to grading policies and visual and functional quality."
- Policy 6.3 of the Land Use Element discusses clustering of residential development. This policy encourages clustering when three objectives can be met, one of which is "Preservation of the natural landform."
- Policy 6.5 of the Land Use Element discusses hillside development. This policy states that "it is the intent of the General Plan to focus urban development on the city's mesa land and respect, preserve and maintain the natural topographic features." The policy does provide for limited developments in the hillside areas of Chula Vista provided specific guidelines are met. These guidelines require site and building design which respects natural topography, roadways which respect natural topography, limited and sensitive grading, and an aesthetic sensibility which avoids highly visible development which is destructive of desirable natural features and viewsheds.
- Policy 7.7 of the Land Use Element discusses Landform Grading, and states that such grading, defined as "contour grading method which creates artificial slopes with curves and varying slope ratios designed to simulate the appearance of the surrounding natural terrain," shall be the dominant grading method used for a development project.
- Policy 8.1 of the Land Use Element discusses scenic highways and roads, one of which is East H Street from I-805 to Hunte Parkway. The policy states that the alignment of East H Street provides some of the best views of the Mother Miguel Mountain, and that these views should be maintained and enhanced. The policy also states that a consistent quality of development and landscaping along the entire route of East H Street should be maintained.
- Policy 6.2 of the Conservation and Open Space Element calls for preservation of mountain landforms, and states that Mother Miguel Mountain is the only such significant landform in the Chula Vista General Plan area.
- Planning and Design Proposal 5.6 of the Eastern Territories Area Plan discusses preservation of mountains, prominent hillsides and landform. Under discussion of mountain landforms, Mother Miguel Mountain is identified as an area to be preserved as open space. The discussion goes on to state that "Limited

low density residential development may be permitted on the lower portion of the foothills situated northwest and southwest of the mass of mountain if site planning can adequately address the hillside development guidelines. . . . preservation of important views to and from the site, and grading in a manner which keeps cut and fill slopes to a minimum".

Impacts

Landform

Development of the 357 homes in the northern portion of the site would occur primarily in the lower foothills on the west side of Mother Miguel Mountain. Figure 3.2-1 depicts the approximate extent of the proposed neighborhood as viewed from the west side of Sweetwater Reservoir. Figure 3.2-2 shows lands within the project which have greater than 25 percent slope. Residential development in the northern portion would consist of custom homes, and grading plans would be designed to avoid steep slopes. The applicant proposes to limit grading to the building envelope rather than mass grading large pads, and to use stem-wall foundations, post and beam construction, and multiple level structures to minimize impacts of development on the steep terrain. Therefore, landform impacts associated with residential development in the northern portion of the site are not significant.

The GDP proposes a 6-acre interpretive center and 7-acre conference center/retreat and inn on a prominent knoll (approximately 800 feet above MSL) in the higher elevations to the northeast of the proposed residences in the northern portion of the site. Proposed uses at the interpretive center include automobile access and parking, informational displays, a small amphitheater, trail heads, and perhaps a botanical garden. The adjacent conference center would include a 20- to 30-room structure, approximately 20 small cottages with a total of up to 50 rooms, and conference facilities/meeting rooms for up to 200 persons. Onsite parking and related ancillary uses to support the conference facilities would be required. The designated site contains topography with slopes in excess of 25 percent. Grading techniques for this portion of development are not discussed in the GDP. Landform impacts associated with the interpretive center and conference center/retreat and inn are unknown at this time, and will be analyzed at the SPA Plan level when grading plans for these facilities are available.

The remainder of the development, including the commercial center, school, park, and 1,262 homes, would be constructed in the 738-acre southern portion. Refer to Figure 3.2-2 for lands in the southern portion of the project which have greater than 25 percent slope. Figures 3.2-3 through 3.2-5 contain photographs of conditions before proposed grading and visual simulations of conditions after proposed grading in the southern portion. Grading would be extensive; virtually the entire development area would be reconfigured. Gobblers Knob would be removed, Horseshoe Bend would be greatly changed, and terraced manufactured slopes would step down to Proctor Valley Road. Impacts due to extensive grading in the southern portion are considered to be significant.

Gobbler's
Knob

Horseshoe
Bend

BEFORE

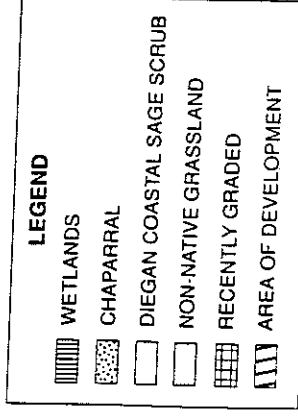
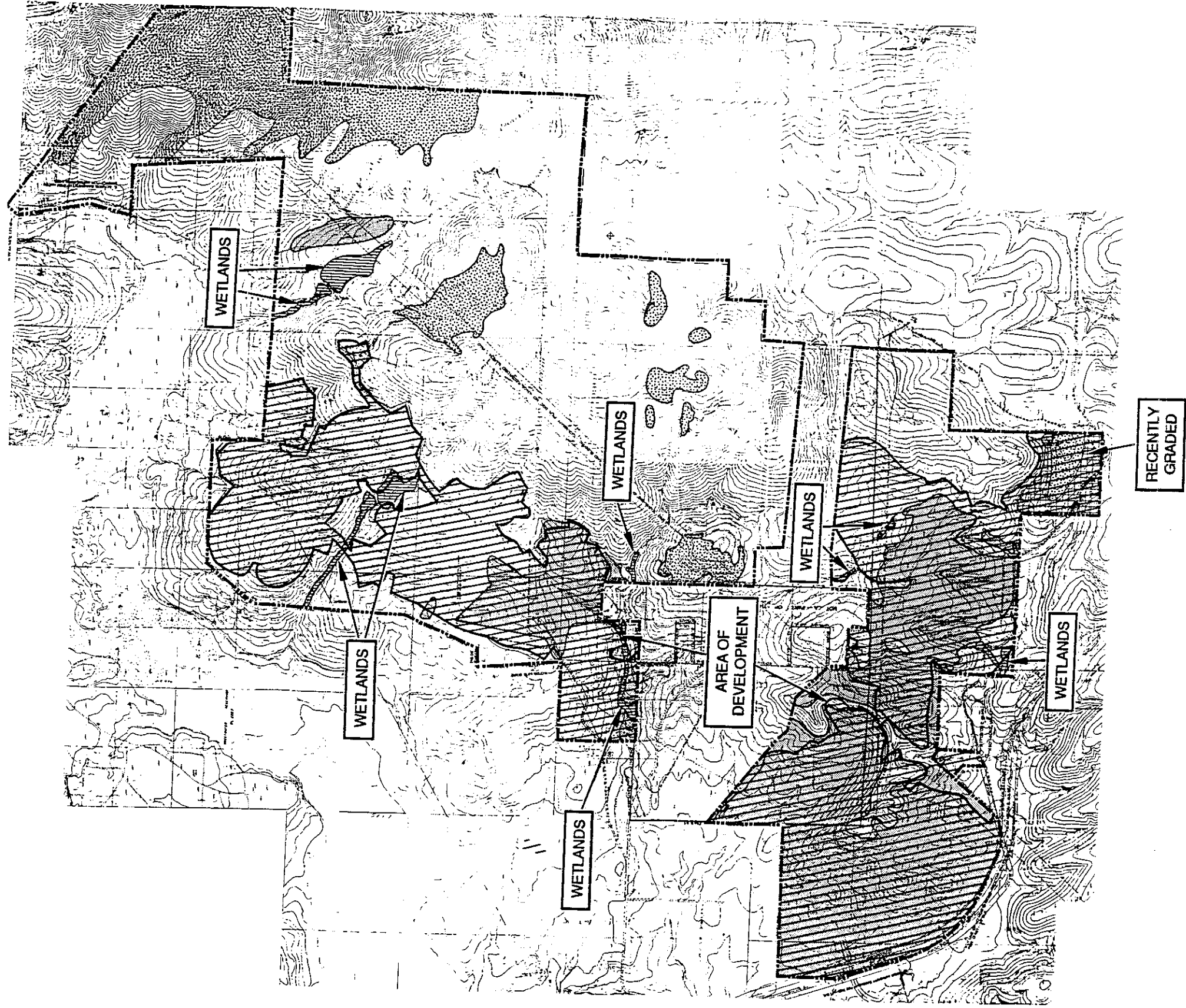
AFTER

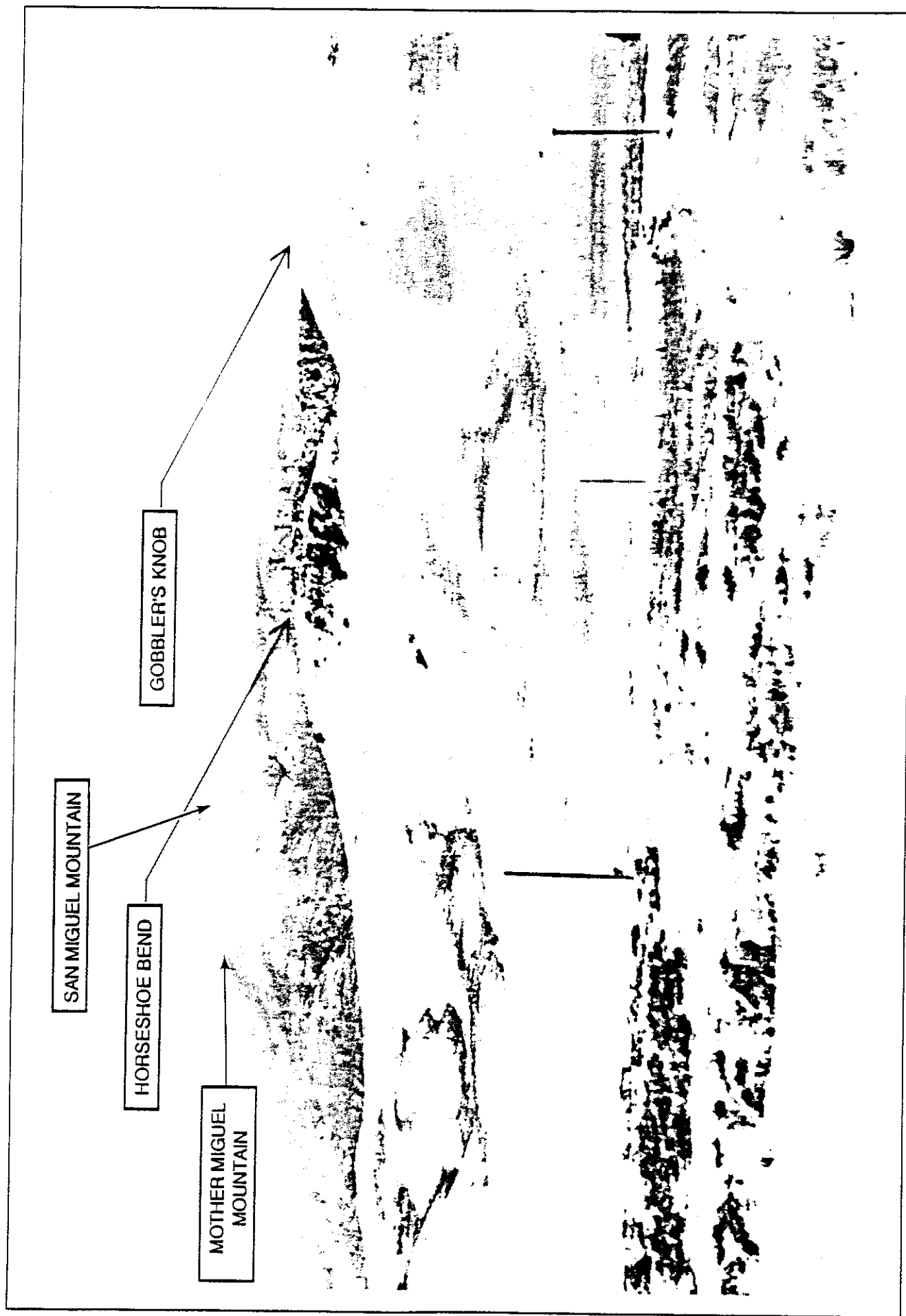


Impact of Grading for Project (View Looking North)

FIGURE

3.2-3

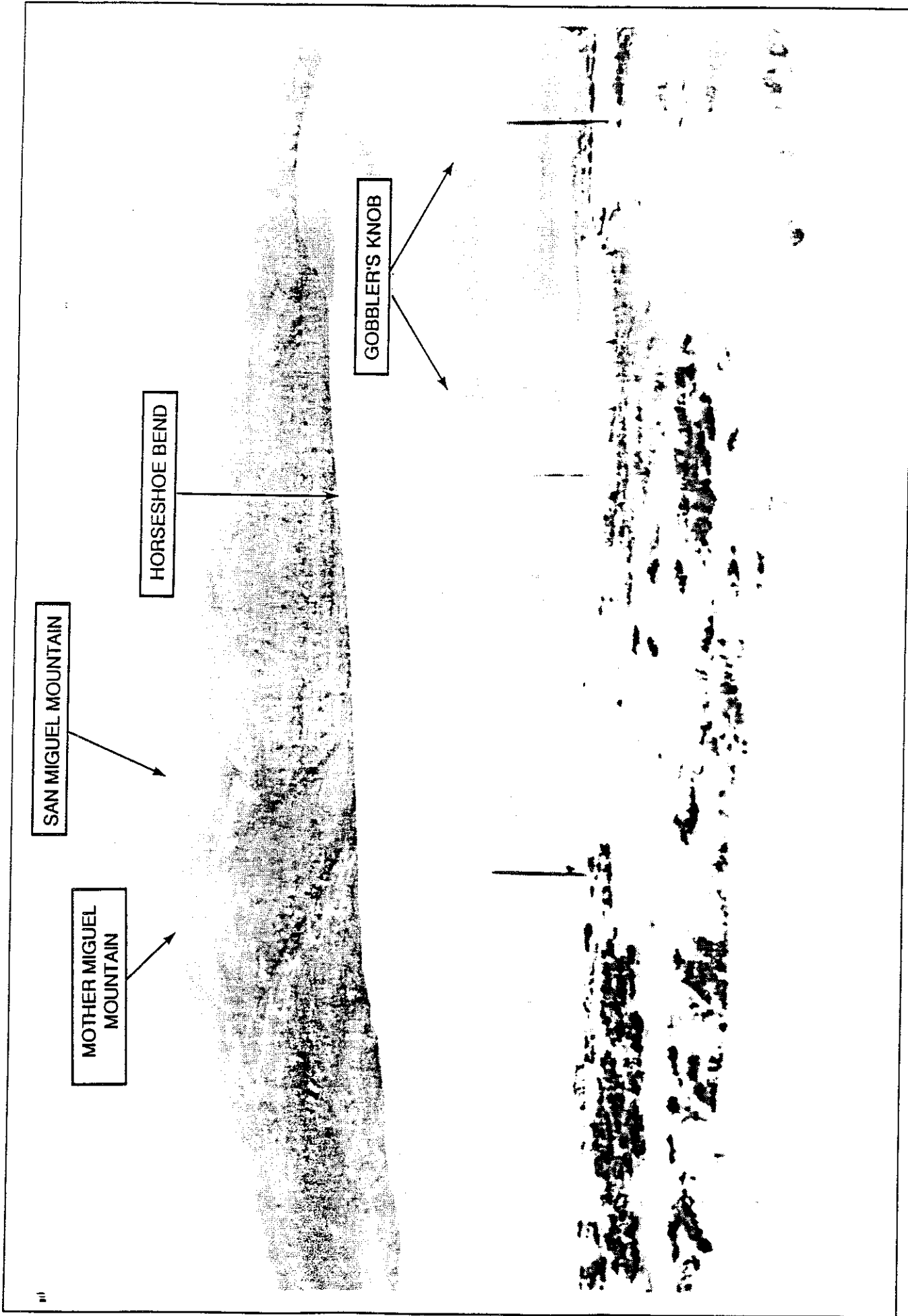




FIGURE

Existing Dominant Landforms (View Looking Northeast from Blacksmith Road)

3.2-4



FIGURE

Impacts of Grading for Project (View Looking Northeast from Blacksmith Road)

3.2-5

Visual Quality

The replacement of a generally natural area with residential development on the project site would alter views to the site experienced by receptors located south, west, and northwest of the proposed project. The overall visual impact of substituting homes for natural scenes is not considered to be significant, as this area has been designated for some form of residential development by the City of Chula Vista General Plan.

Proposed landform grading in the southern portion would eliminate two landforms (Gobblers Knob and Horseshoe Bend). This is a significant landform impact. This impact has a significant visual component as well, because these features are highly visible from adjacent public areas or neighborhoods.

Views to Mother Miguel and San Miguel Mountains from a short portion of East H Street that runs through the southernmost tip of the Rancho San Miguel site would be modified by grading and development associated with the proposed project. The mountains would continue to be in the background view; however, the foreground view would change from hillsides and landforms dominated by natural vegetation to residential development characterized by landscaped manufactured slopes and single family dwellings. The impacts to scenic roadway views from this portion of the proposed project are considered to be significant. Along most of the alignment of East H Street, the foreground view would be dominated by each development the road passes through. For these portions of East H Street the visual impacts of the Rancho San Miguel development would not be significant.

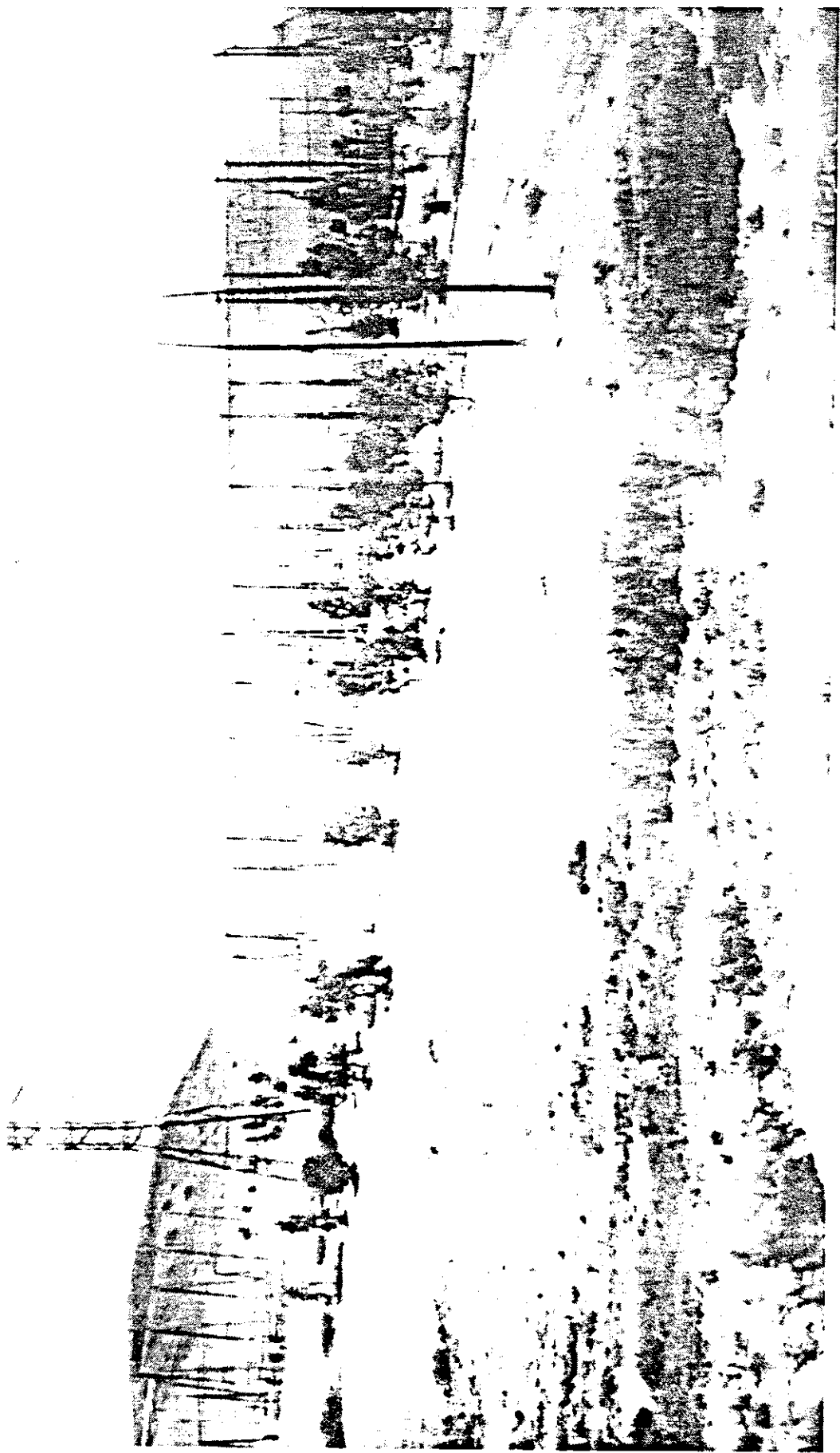
The project would require three onsite tanks for potable water storage. The largest (3 million gallons) would be located in the open space area at the northern end of Horseshoe Bend in the southern portion of the site. The other two water tanks would be approximately 1 million gallons each; one would be located on a hill in the northeastern corner of the southern portion and one would be located in the vicinity of the proposed conference center in the northern portion. In general, water tanks are large, located at elevations higher than the area they serve, and not easily camouflaged. All three of the tanks proposed for this project would be located in or adjacent to open space which is part of the Chula Vista greenbelt. In addition, tanks located in the southern portion of the site would be visible from East H Street, a designated scenic roadway. Visual impacts due to construction and placement of the water tanks are unknown at this time, and will be analyzed at the SPA Plan level when accurate locations, design, and architectural features of the tanks are available.

Some of the proposed residences will be located within 1,000 feet of the SDG&E Miguel Substation. For most of the residences, the dominance of the facility will be minimized by intervening topography, hillsides that serve as a backdrop, and development plans that orient residences away from the substation. A limited number of lots located in the southwestern end of the northern portion of the site will be at low elevations where the topography is oriented towards the substation, so that the substation,

with its industrial appearance, will be the dominant view. The visual impacts associated with locating residences in close proximity to the SDG&E substation are illustrated by the photograph in Figure 3 2-6. The substation is partially screened by a mix of young eucalyptus trees.

Eucalyptus sideroxylon, or "red iron bark" eucalyptus is a fairly bushy type of tree which can grow to 20 to 80 feet high. *Eucalyptus cladocalyx*, or "sugar gum" eucalyptus, is more wispy and sparse, growing to 75 to 100 feet tall. *Eucalyptus lehmannii*, or "bushy yate" eucalyptus, remains fairly low, dense, and bushy, only growing to 20 to 30 feet tall. These trees tolerate a wide range of soil types and are drought tolerant. For the fewer than 10 lots with views similar to that illustrated in Figure 3.2-6, the visual impact of being located next to the SDG&E substation would be significant if the homes were built now. However, the eucalyptus trees planted now are expected to provide an adequate screen within 5 years. Figure 3.2-7 illustrates the view at the same location but with the young eucalyptus trees on SDG&E property altered by computer simulation techniques to be roughly twice in size. This change in height from approximately 20 feet to 40 feet is well within the expected growth capability of the trees. One additional tree was placed in the extreme left edge of the simulated photograph. Figure 3.2-7 demonstrates that the dominant view of the substation will eventually be effectively screened by a dense stand of tall trees, most of which exist, although they have not yet reached full growth. Provided the trees are properly maintained and reach full growth, visual impacts of being located near existing SDG&E facilities are not significant for these lots.

Transmission lines traverse the project area in utility power line corridors. The height of the lattice tower structures that support the transmission lines varies based upon siting variables such as topography, wind, ground clearance, etc. SDG&E estimates that the range of height of existing lattice towers within easements located within the Rancho San Miguel project site is from 80 to 125 feet (Siino 1991). The visual impacts associated with locating residential development adjacent to transmission lines are considered to be adverse but not significant, as electrical lines, towers, and poles are common features of many urban landscapes, including rural residential areas.



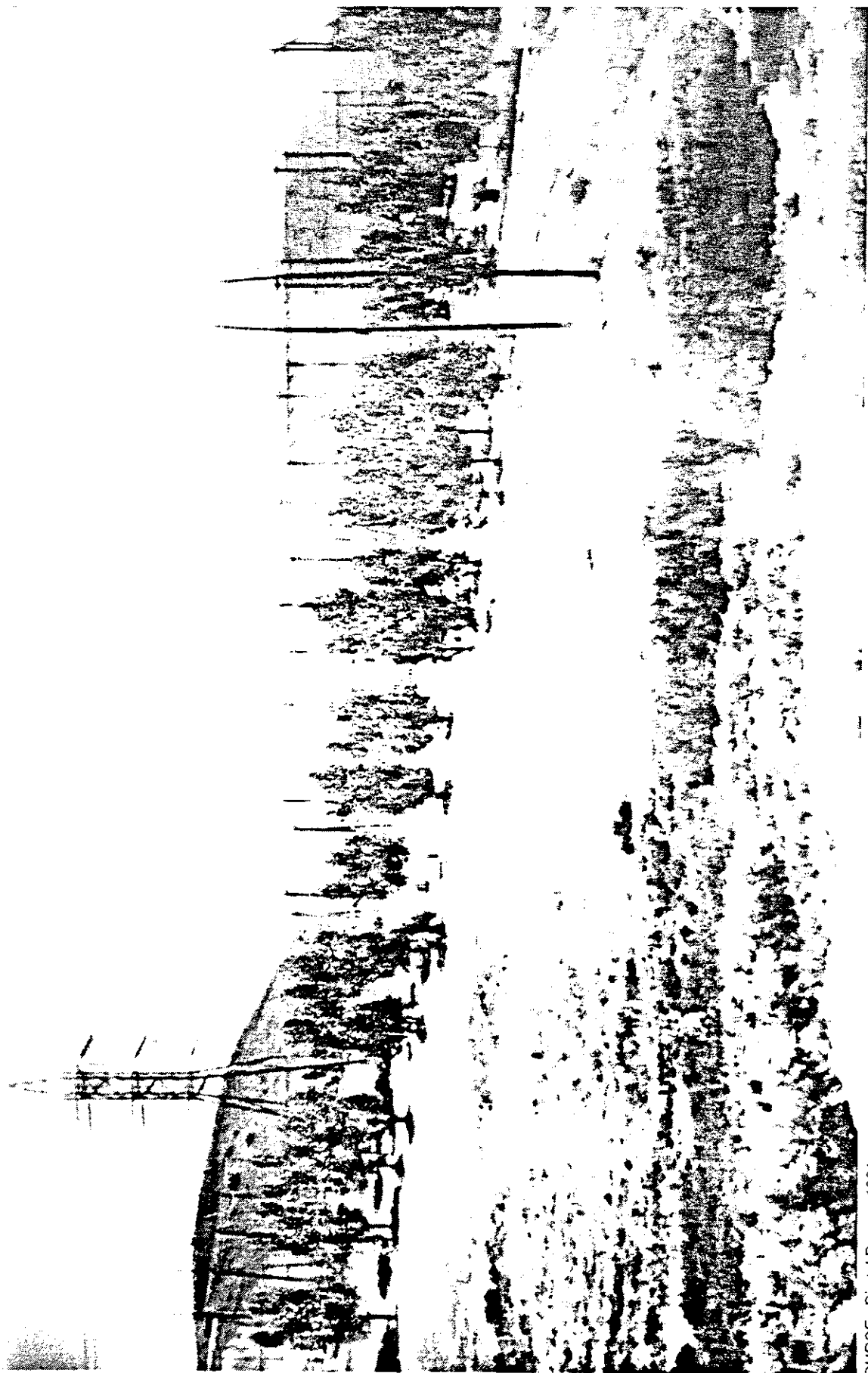
FIGURE

3.2-6

View of SDG&E Substation from Southwestern Corner of Northern Portion

The substation will be undergoing expansion in the future (as discussed in Section 3.1, Land Use); therefore, future vistas will be affected. The expansion is a planned activity of SDG&E, which is directly related to ensuring that the electrical energy needs of the service area are met. The impacts to visual quality from the proposed expansion are not significant for most of the development. However, as discussed in land use, views from lots adjacent to the planned expansion area (along the northern perimeter of the southern portion, overlooking Wild Man's Canyon) will eventually change from canyon and hillside with single power lines, to a more dense network of towers, poles, wires, and structures associated with the planned SDG&E expansion. Placing these lots at a location where residents may eventually experience industrial-type views from the proposed expansion of this major SDG&E facility is a significant impact of the proposed GDP.

See discussion of generalized land use impacts of the proposed project on the SDG&E Substation facility in the Land Use Section of this document.



SOURCE: Digital Design, 1991

FIGURE

3.2-7

Computer Simulation of Screening Effect with Enhanced Tree Growth



Mitigation

Landform

Impacts associated with grading for proposed visitor facilities in the northern portion are unknown at this time, and shall be evaluated at the SPA Plan level.

A substantial amount of grading is proposed for the southern portion of the project. To reduce general grading impacts, the applicant must demonstrate compliance with hillside development guidelines during the SPA Plan review to the satisfaction of city planning staff.

Landform (and visual) impacts associated with the virtual elimination of Gobblers Knob and Horseshoe Bend in the southern portion are unmitigable with the project as revised. Reduction to insignificance of this impact would require a major redesign of the proposed project.

Visual Quality

Impacts associated with siting and design of water tanks are unknown at this time, and shall be evaluated at the SPA Plan level.

The proposed grading and development in the southern portion of the site would impact views to Mother Miguel and San Miguel Mountains from a short portion of East H Street that extends through the project site. These impacts can be mitigated to below a level of significance by the implementation of landscaping and development plans consistent with General Plan guidelines for scenic roadways.

To potentially reduce visual impacts associated with located residential lots adjacent to a large electrical substation to below a level of significance at the General Development Plan level of review, the applicant shall implement the measures listed below:

- Provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper describing future SDG&E expansion plans, to the extent feasible. Provide buyers of these lots with a Grant Deed containing a provision describing future SDG&E expansion plans, to the extent feasible. This requirement will ensure that information regarding SDG&E's future expansion plans are disclosed to all subsequent home buyers. The Rancho San Miguel CC&Rs shall also contain information regarding the expansion plans for the SDG&E substation to provide disclosure to subsequent home buyers.
- Achieve general visual separation through a comprehensive buffer plan at the SPA plan level of analysis which includes measures such as landscaping, significant topography variation (including use of natural topography as well as berming), and homesite orientation for houses near the SDG&E property. Specific measures proposed by SDG&E are as follows:

- Establishment of separation by development setback incorporating landscaped greenbelt or residential collector street;
- Achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses near the substation property;
- Utilization of graded materials to construct view screening landscaped mounds;
- Provision for SDG&E to view the final plans so that visual impacts can be better determined and, at that time, additional landscaping and screening may be necessary to mitigate visual impacts.

Based upon the contents of this comprehensive buffer plan, the significance of the visual impact of the future SDG&E substation expansion plans will be reviewed at the SPA plan level.

- Provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvement on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance.
- Continue to coordinate with SDG&E throughout the processing of SPA Plans for this project.
- Prior to approval of any SPA plans, the applicant shall submit a legal document which commits the applicant to not oppose SDG&E's decision to process its expansion plans through the City provided that: (i) this project's processing time is not delayed as a result of SDG&E's processing; (ii) the City treats the two projects as separate processes, with separate hearing schedules; and (iii) SDG&E's processing is not conducted at the applicant's expense.

Two additional measures are suggested by SDG&E to mitigate impacts of the future expansion of the substation facility:

- Location of the commercial center adjacent to the southwest boundary of the substation;
- Location of Bonita Miguel Road (San Miguel Ranch Road) adjacent to the southwest boundary of the substation;

However, these measures would require a significant redesign of the proposed project and are not proposed to be included. In the opinion of staff, these measures are not necessary in order to mitigate the issue of land use compatibility with the SDG&E facility to below a level of significance.

It is anticipated that implementation of these measures will reduce the visual impacts of this project on the SDG&E facility to a level below significance at the GDP level; however, this issue will be analyzed anew at the SPA plan level of analysis, which is the next regulatory planning level required by the City of Chula Vista, in order to determine the significance of this impact after the applicant has complied with the mitigation measures contained within this GDP EIR.

Analysis of Significance

Several issues associated with the project as revised will require subsequent analysis at the SPA Plan level, including general grading plans for the entire site, grading associated with visitor facilities in the northern portion of the site, and siting and design of proposed water tanks. The impacts related to these issues are unknown at this time. Landform grading in the southern portion of the site will result in impacts that are unmitigable with the project as revised. Visual impacts to the portion of East H Street that passes through the proposed site will be reduced to below a level of significance by the proposed mitigation measures. Visual impacts associated with locating a limited number of residences in the southwestern corner of the northern portion close to the existing SDG&E substation are not significant because existing landscaping planted and maintained by SDG&E is expected to effectively screen the existing electrical substation. It is anticipated that likely future visual impacts to lots placed near the planned expansion areas for the SDG&E substation are mitigable with a commitment to the mitigation measures outlined above; however, the significance of this issue will be further reviewed after implementation of the mitigation measures outlined in this document at the SPA Plan level.

3.3 BIOLOGICAL RESOURCES

A biological report of the subject property was conducted by Pacific Southwest Biological Services, Inc. (PSBS) in 1989. The zoological portion of the survey was conducted in 1989, while the botanical portion was conducted on various occasions between 1974 and 1989. A California gnatcatcher (*Poliophtila californica*) study was conducted in 1989 (PSBS 1989b). ERC Environmental Services and Energy Co. (ERCE) subsequently conducted surveys in 1990 focusing on sensitive biological resources, especially the California gnatcatcher and sensitive plant species. Sweetwater Environmental Biologists (SEB) conducted additional focused surveys in 1991. Additional gnatcatcher surveys were conducted in 1991 by PSBS. This section is a summary of the PSBS 1989 survey reports (Appendix B) in Volume 2 and additional surveys and field work conducted by ERCE in 1990 and PSBS and SEB in 1991. Additional information on topography, soils, and surrounding land uses is contained in the Biological Technical Report, prepared by SEB and ERCE, in Appendix C in Volume 3.

Existing Conditions

Vegetation

Previous uses of the area as a cattle/dairy enterprise and the occurrence of recent fires have disturbed portions of the vegetation. A majority of the northern portion of the site retains high-quality native vegetation communities, however, much of the southern portion has been heavily disturbed by agricultural practices. Although the property was extensively burned in the 1970 Laguna fire, plant communities had recovered by 1974 to a recognizable state (Beauchamp and Rieger 1974). Notable unburned areas include the 980-foot hill southwest of Ricky Dam, covered by Diegan coastal sage scrub, and the 713-foot Trout Hill northeast of the SDG&E Miguel Substation, mantled by an almost pure stand of chamise (*Adenostoma fasciculatum*) (Plate 2 in pocket at end of Volume 1 of this document).

Plant communities identified at the Rancho San Miguel site by SEB and ERCE follow Holland (1986) and include PSBS community designation equivalents identified in parentheses:

- Southern Mixed Chaparral (Mixed Chaparral).
- Diegan Coastal Sage Scrub (Diegan Phase of Inland Sage Scrub).
- Dry Marsh/Riparian Scrub (Dry Marsh/Wetland).
- Riparian Scrub, mulefat association (Mulefat Scrub Riparian).
- Non-native Grassland.
- Disturbed California Native Grassland (Native Grassland/Clay Lens)

Floral nomenclature used throughout this report follows that of Munz (1974) and Beauchamp (1986), while common names in most cases follow Higgins (1949).

Diegan coastal sage scrub onsite is dominated by shrub species including: California sage (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*). South facing slopes had significant stands of San Diego viguiera (*Viguiera laciniata*). Portions

of the steeper north facing slopes supported sage scrub dominated by lemonade berry (*Rhus integrifolia*) and buckthorn (*Rhamnus crocea*). For mapping purposes, however, these areas are mapped as Diegan coastal sage scrub due to the dominance of plants associated with that plant community. Several areas of sage scrub have been heavily grazed and previously burned but are in the process of natural successional recovery. The bulk of the subject property is covered by Diegan coastal sage scrub; approximately 1,922 acres.

Southern mixed chaparral onsite is restricted to small areas on the higher portions of the hills and slopes. Characteristic chaparral species include: chamise (*Adenostoma fasciculatum*), sugarbush (*Rhus ovata*), and mission manzanita (*Xylococcus bicolor*). Aside from the unburned chamise stand on Trout Hill, chaparral was encountered at four locations on Mother Miguel Mountain and also at the eastern boundary of the site. Southern mixed chaparral occupies approximately 109 acres onsite.

Chamise chaparral, located on Trout Hill, is dominated by chamise almost to the exclusion of all other plants. Approximately 23 acres are occupied by this community.

Three dirt reservoirs and five primary drainages are found on the site. The reservoirs are dammed drainages; they are soil lined and were created by ranchers for livestock use. The three reservoirs on the property and five primary drainages contain various shoreline and sub-emergent flora adapted to high alkalinity and seasonal water deprivation; the plant community is described as dry marsh/riparian scrub habitat. The reservoirs were dry most of the year during the 1989 and 1990 surveys, but were filled and overflowing during 1991 surveys. The aquatic plants found in these water bodies are not in themselves rare, but such situations in San Diego County are. The littoral associations are subject to complete desiccation in summer months. Seepage from the larger impoundments, however, stimulates scattered mulefat (*Baccharis salicifolia*), willow (*Salix* sp.) and tamarisk (*Tamarix* sp.) invasion into these associations.

Riparian scrub, mulefat association varies from a community dominated by willow species to a sparse herbaceous scrub dominated by mulefat. The mulefat association of riparian scrub habitat is found in scattered locales along ephemeral streambeds and reservoirs onsite. Drainages with reservoirs have this low quality or incipient wetland vegetation both upstream and downstream of the reservoirs. The onsite road area is dominated by this mulefat scrub association and supports scattered clusters of arroyo willow (*Salix lasiolepis*). Wetland habitat, including the riparian scrub, mulefat association and the dry marsh/riparian scrub habitat, occupies approximately 13.1 acres onsite.

The non-native grassland is composed of species originating from the Mediterranean region, including wild oat (*Avena barbata*), foxtail (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), field mustard (*Brassica geniculata*), and vinegar weed (*Trichostema lanceolatum*). Several native elements also occur, e.g., tarplant (*Hemizonia fasciculata*) and telegraphweed (*Heterotheca grandiflora*). Non-native grassland occupies

approximately 506 acres onsite.

Disturbed native grassland occurs in the northeastern area of the site and occupies approximately 16 acres. Purple needlegrass (*Stipa pulchra*) occurs over scattered portions of this habitat. Soils are composed of a clay lens. The original composition of the native grassland on this site is unknown, but the increased number of non-natives reduces the quality of the native grassland to a disturbed condition. If disturbances increase or the types of disturbances change, the habitat could be converted to non-native grassland. There are substantial bulbous plant populations, including wild hyacinth (*Dichelostemma pulchellum*), wild onion (*Allium praecox*), golden stars (*Bloomeria crocea*), the rare Cleveland's golden star (*Muilla clevelandii*), and variegated dudleya (*Dudleya variegata*).

Flora. A total of 247 species of plant taxa were observed on the site by PSBS (1989a); of these, 62 were non-native (Appendix B in Volume 2). An additional 20 species of plant taxa were observed by ERCE during site surveys, including two non-native species. Additional infrequently occurring species undoubtedly inhabit the site, primarily at the higher elevations. In addition, some sensitive species noted at nearby San Miguel Mountain could occur onsite.

Wildlife

Wildlife Habitat. The value of a site to wildlife is dependent on physical and biological factors. Physical and biological diversity are especially important in providing high values to wildlife. Other important factors include: location relative to other land uses, the quality of habitat on and adjacent to the site, and the uniqueness of the habitat in relation to the project vicinity. The project site has high wildlife value because it meets all of these criteria. The unique soils (e.g., clay lens soil) and varying topography help create a diversity of habitats onsite that are contiguous with open space areas outside of the property boundaries. Mother Miguel Mountain remains relatively undisturbed to the east.

Large mammal movement corridors exist on the project site (primarily in the northern portion) crossing generally through the site leading from Mother Miguel Mountain and Otay Mesa to the Sweetwater Reservoir (see Plate 3 in pocket at the end of Draft EIR 90-02 in Volume 1). Current scientific literature describes areas of open space and their connections as an integral part of the maintenance of biological diversity and population viability. The project site is part of a larger natural open space system that runs from Sweetwater Reservoir to the Jamul Mountains to the east and south to the international border. As a part of this natural, interconnected system, the site acts as an important link in the maintenance of biodiversity and long-term survival of species in the area south of Sweetwater River and north of Otay Ranch. Habitat adjacent to Rancho San Miguel in the Sweetwater Reservoir is considered very important for wildlife. The Sweetwater Reservoir and its adjacent mudflats and upland areas are among the most attractive areas for birds and other forms of wildlife remaining in coastal San Diego County. Everett (1979) recorded 174 species of birds in the area. Some of these are

rare or of very local distribution in southern California. Sweetwater Reservoir is the only known breeding location of the western and Clark's grebes (*Aechmophorus occidentalis occidentalis* and *A. o. clarkii*) in San Diego County and contains the largest breeding populations in southern California. The reservoir represents an important waterfowl wintering area and the surrounding mudflats offer excellent habitat for shorebirds and wading birds.

Portions of the project site have been disturbed by past agricultural practices, thereby reducing their value for wildlife by reducing diversity of vegetation types, microtopography, and plant species. Additionally, portions of the Diegan coastal sage scrub have not recovered from the fire in 1985. A majority of the site, however, remains a significant resource for wildlife. A total of 131 vertebrate species were observed during the studies conducted by PSBS and ERCE.

Amphibians. Four amphibian species were detected during the project surveys (Appendix B in Volume 2). Amphibian use of the project site would focus on water sources and drainages.

Reptiles. Twelve species of reptiles were detected by PSBS biologists during previous surveys (PSBS 1989a). These species are listed in Appendix B of Volume 2. The western whiptail (*Cnemidophorus tigris*) and side-blotched lizard (*Uta stansburiana*) were the most frequently observed lizards. Six fairly common snake species were also observed and are listed in Appendix B.

Birds. A total of 102 species of birds were detected by PSBS and ERCE biologists (see Appendices B and C). Some common resident species of the Diegan coastal sage scrub onsite include: Anna's hummingbird (*Calypte anna*), California quail (*Callipepla californica*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), California gnatcatcher (*Polioptila californica*), and lesser goldfinch (*Carduelis psaltria*).

Thirteen species of raptors were detected flying over the site or foraging onsite. Common raptor species detected include red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*). Golden eagle (*Aquila chrysaetos*) was regularly detected by PSBS and ERCE biologists, and PSBS (1989a) noted two historical nest sites near the site's eastern boundary, one of which is just inside the boundary of this project area, and the other is on the property owned by the Otay Water District several feet away. Both of these sites have been confirmed as historic eagle nest locations (Scott 1991).

Mammals. Fifteen species of mammals were detected on the project site by PSBS biologists during previous surveys (PSBS 1989a). Appendix B of Volume 2 lists species observed during these surveys. Some commonly observed mammals include; desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*).

Eight large mammalian predators occur, or could occur, in the vicinity. The study site is part of a large expanse of natural area which allows species such as mountain lion (*Felis concolor*), bobcat, and gray fox (*Urocyon cinereoargenteus*) to persist in the project area. Bobcat appears relatively common in brushland habitat in San Diego County (Lembeck 1978) and is an inhabitant of the study area. Mountain lions are known to occur regularly in the San Ysidro Mountains and tracks were observed on the site. The study site is probably part of a mountain lion home range due to the population of mule deer inhabiting the site.

Sensitive Resources

Sensitive Habitats. Sensitive habitats are vegetation communities which are considered rare within the region, are listed by the Conservation Element of the General Plan for the County of San Diego (County of San Diego 1980), or support sensitive plants or animals. The sensitive habitats onsite are wetlands (riparian scrub/mulefat association and dry marsh/riparian scrub), Diegan coastal sage scrub, and disturbed coastal prairie. A complete description of these habitats is found in Appendix B of Volume 2. Riparian habitat is considered a sensitive resource by the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS). Riparian habitat is specifically addressed by the CDFG Code Sections 1600-1606 (Streambed Alteration Agreement), and wetlands are also under the jurisdiction of the U.S. Army Corps of Engineers permit process (Reinen 1978). Riparian habitat is considered a valuable but declining resource locally and nationwide. This habitat type covers less than 0.2 percent of San Diego County (Oberbauer 1990).

The wetland habitats (13.1 acres) at Rancho San Miguel and nearby offsite areas are of low to medium quality. Several of the wetland areas were created by past farming activity. Their generally low diversity is due to the lack of long-term water sources and grazing damage to the vegetation and streambeds. However, the ponds and associated channels are important water sources for wildlife due to their placement on otherwise dry property.

Diegan coastal sage scrub (1,922 acres) is considered a sensitive habitat by the County of San Diego, CDFG, and USFWS. Oberbauer (1990) estimated that approximately 70 percent of the original acreage of this habitat in the county has been lost, primarily because of urban expansion along the coast. Additional evidence of the decline of this once common habitat is the decreasing number of plant and animal species associated with it. Very little coastal sage scrub is found in areas designated as permanent natural open space (e.g., Bureau of Land Management, U.S. Forest Service, county parks, and easements) in the county.

Disturbed native grassland (16 acres), located in the eastern non-native grassland area, contains several sensitive plants and supports native perennial grass species. Native grassland habitats are considered sensitive by the County of San Diego and CDFG. Native grassland on the project site has been affected by the invasion of non-native annual grass species and disturbed by the Otay Water District reclaimed waterline and

patrol road. However, much of the habitat components are still intact.

Sensitive Plants. High-interest plants include those listed by the USFWS (1989), CDFG (1990a), and California Native Plant Society (Smith and Berg 1988). The CNPS Listing is sanctioned by the CDFG and essentially serves as its list of "candidate" species for threatened or endangered status. The PSBS survey (1989a) of Rancho San Miguel revealed the presence of thirteen plant taxa considered rare and/or endangered by local, state, or federal agencies. The ERCE surveys (1990) revealed the presence of four additional sensitive species onsite and additional populations of some of the sensitive species detected by PSBS (1989a). SEB surveys found one additional sensitive species in 1991. A complete description of the occurring and potentially occurring sensitive plant species is found in Appendix B of Volume 2. A list of sensitive plant species detected onsite or known from the region is provided in Table 3.3-1. Plate 2 in the pocket of Draft EIR 90-02 of Volume 1 shows locations of sensitive plant species found during the surveys. See Table 3.3-2 for an explanation of the CNPS Codes, Candidate Categories, and USFWS designations. A brief summary of the status of the sensitive plant species found on the site follows.

Hemizonia conjugens, Otay tarweed

USFWS: Candidate (Category 2), Endangered, CNPS rating: List 1B, 3-3-2

This late spring-blooming (May-July) annual herb occurs only in southern San Diego County and northwestern Baja California. Within the County, Otay tarweed is found in scattered localities on clay soils and in swales from the vicinity of Sweetwater Reservoir south to the border. It is apparently equally uncommon in Mexico. The primary threat to this species is development of its habitat.

Table 3.3-1
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Acanthamintha ilicifolia</i> San Diego Thorn mint	C2	CE	List 1B R-E-D Code 2-3-2	Requires clay soil. May occur in clay lens area onsite.
<i>Adolphia californica</i> California adolphia	—	—	List 2 R-E-D Code 1-2-1	Detected.
<i>Ambrosia chenopodiifolia</i> San Diego bur sage	—	—	List 2 R-E-D Code 2-2-1	Typically found on mesas and open slopes in the southern coastal area. Not expected onsite.
<i>Ambrosia pumila</i> San Diego ambrosia	C2	—	List 1B R-E-D Code 3-2-2	Typically found in valleys and disturbed areas in CSS and foothill grassland habitats. May occur onsite.
<i>Arctostaphylos otayensis</i> Otay Manzanita	C2	—	List 1B R-E-D Code 3-2-2	Known from San Miguel Mountain area. Typically found in chaparral above 1100 m. Unlikely to occur onsite.
<i>Artemisia palmeri</i> San Diego sagewort	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Astragalus deanei</i> Dean's milk vetch	C2	—	List 1B R-E-D Code 3-2-3	Typically found in chaparral habitat and open areas. May occur onsite.
<i>Calamintha chandleri</i> San Miguel Savory	C2	—	List 4 R-E-D Code 1-1-2	Associated with shaded oak woodlands. Unlikely, although may occur in north-facing chaparral habitat onsite.
<i>Calochortus dunnii</i> Dunn's mariposa lily	C2	CR	List 1B R-E-D Code 2-2-2	Known from San Miguel Mountain area above 1000 m. Unlikely, although may occur in chaparral habitat onsite.

Table 3.3-1 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Chamaebatia australis</i> Southern mountain misery	—	—	List 4 R-E-D Code 1-1-1	Known from San Miguel Mountain area. Unlikely, although may occur in chaparral habitat onsite.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> Summer holly	—	—	List 1B R-E-D Code 2-2-2	May occur in chaparral habitat onsite.
<i>Cupressus guadalepensius</i> ssp. <i>forbesii</i> Tecate cypress	—	—	List 1B R-E-D Code 2-2-2	May occur in chaparral habitat onsite, although not expected.
<i>Dichondra occidentalis</i> Western dichondra	C3	—	List 4 R-E-D Code 1-2-1	Detected.
<i>Dudleya variegata</i> Variegated dudleya	C2	—	List 4 R-E-D Code 1-2-2	Detected.
<i>Ericameria palmeri</i> ssp. <i>palmeri</i> Palmer's ericameria	—	—	List 2 R-E-D Code 2-2-1	May occur in CSS habitat onsite, although not expected.
<i>Eryngium aristulatum</i> ssp. <i>parishii</i> San Diego button celery	C1	CE	List 1B R-E-D Code 1-3-2	Typically found in vernal pools. Not expected onsite.
<i>Ferocactus viridescens</i> San Diego barrel cactus	C2	—	List 2 R-E-D Code 1-3-1	Detected.
<i>Fremontodendron mexicanum</i> Mexican flannelbush	C2	CR	List 1B R-E-D Code 3-2-2	Typically found in shaded canyons. May occur in chaparral habitat onsite, but not expected.
<i>Fritillaria biflora</i> California chocolate lily	—	—	Considered, but too common	Known from San Miguel Mountain area. May occur in clay soil area onsite.
<i>Harpagonella palmeri</i> var. <i>palmeri</i> Palmer's grapplinghook	—	—	List 2 R-E-D Code 1-2-1	Detected.

Table 3.3-1 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Hemizonia conjugens</i> Otay tarplant	C2	CE	List 1B R-E-D Code 3-3-2	Detected.
<i>Hemizonia floribunda</i> Tecate tarplant	C2	—	List 1B R-E-D Code 2-2-2	Typically found in channels in chaparral habitat. Not expected onsite
<i>Iva hayesiana</i> San Diego marsh elder	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Lepechinia ganderi</i> Gander's pitcher sage	C2	—	List 1B R-E-D Code 3-1-2	Known from San Miguel Mountain. May occur in chaparral onsite.
<i>Muilla clevelandii</i> San Diego goldenstar	C2	—	List 1B R-E-D Code 2-2-2	Detected.
<i>Myosurus minimus</i> var. <i>apus</i> Little mousetail	C2	—	List 3 R-E-D Code 2-3-2	Typically found in vernal pools. Not expected onsite.
<i>Navarretia fossalis</i> Prostrate navarretia	C2	—	List 1B R-E-D Code 2-3-2	Typically found in vernal pools. Not expected onsite.
<i>Ophioglossum lusitanicum</i> ssp. <i>californicum</i> California adder's-tongue	C3	—	List 4 R-E-D Code 1-2-2	Typically on grass slopes and around vernal pools. Unlikely, but may occur onsite.
<i>Opuntia parryi</i> var. <i>serpentina</i> Snake cholla	C2	—	List 1B R-E-D Code 3-3-2	Typically found in chaparral and CSS habitat, although not expected onsite.
<i>Ribes canthariforme</i> Moreno currant	C2	—	List 1B R-E-D Code 3-1-3	Typically in shade of large rocks in chaparral habitat. Unlikely, but may occur onsite.

Table 3.3-1 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			
	Federal	State	CNPS	Likelihood of Occurrence/Notes
<i>Salvia munzii</i> Munz's sage	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Selaginella cinerascens</i> Ashy spike-moss	—	—	List 4 R-E-D Code 1-2-1	Detected.
<i>Solanum tenuilobatum</i> Narrow-leaved nightshade	C2	—	List 1B R-E-D Code 3-1-3	May occur in chaparral habitat onsite, although not expected.
<i>Stipa diegoensis</i> San Diego County needle grass	—	—	List 2 R-E-D Code 3-1-1	Detected.
<i>Streptanthus bernardinus</i> Laguna Mtns. jewel flower	C3	—	List 1B R-E-D Code 2-1-3	Not expected onsite due to inappropriate habitat.
<i>Viguiera laciniata</i> San Diego County viguiera	—	—	List 2 R-E-D Code 1-2-1	Detected.

¹See Table 3.3-2 for explanation of codes

Table 3.3-2

SENSITIVITY CODES FOR TABLE 3.3-1

FEDERAL LISTED AND CANDIDATE SPECIES

FE	=	Federally listed, endangered
FT	=	Federally listed, threatened
C1	=	Enough data are on file to support the federal listing
C2	=	Threat and/or distribution data are insufficient to support federal listing
C3a	=	Extinct
C3c	=	Too widespread and/or not threatened

STATE LISTED SPECIES

CE	=	State listed, endangered
CT	=	State listed, threatened
CR	=	State listed, rare
CP	=	California Fully Protected, Fish and Game Code

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Lists

R-E-D Codes

1A	=	Species presume extinct	<u>R (Rarity)</u>
			1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
1B	=	Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.	2 = Occurrence confined to several populations or to one extended population.
2	=	Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.	3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.
3	=	Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.	<u>E (Endangerment)</u>
			1 = Not endangered
			2 = Endangered in a portion of its range
			3 = Endangered throughout its range
4	=	A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.	<u>D (Distribution)</u>
			1 = More or less widespread outside California
			2 = Rare outside California
			3 = Endemic to California

Approximately 200,000 individuals of Otay tarweed were detected during the SEB surveys. The diagnostic characters used for the identification of this species included: the number of ray and disk flowers and the fertility/sterility status of the disk flowers. In addition, specimens collected from the Rancho Miguel site were compared with specimens at the Museum of Natural History Herbarium in San Diego. Specimens collected were verified as *Hemizonia conjugens* by Dr. Geoffrey Levin, Curator, Herbarium, Museum of Natural History.

Approximately 24,000 individuals of Otay tarweed were detected in the southwestern part of the northern portion of the site. There were five populations of approximately 1,000 individuals each with the largest population composed of approximately 10,000 individuals.

Approximately 175,000 individuals of Otay tarweed were detected throughout the western and central parts of the southern portion of the site. In the southern portion several extremely significant and large populations were detected. There were 30 populations of at least 1,000 individuals each in the southern portion, 6 of these populations containing at least 10,000 individuals each. A population of approximately 20,000 individuals was detected in Horseshoe Bend; another population of approximately 50,000 individuals was detected adjacent to the SDG&E substation on Proctor Valley Road; two populations of 10,000 individuals each on the mesas in the central part of the southern portion and another population of approximately 10,000 individuals along the southern boundary of the central part of the southern portion adjacent to Proctor Valley Road.

**Ferocactus viridescens*, Coast Barrel Cactus

*USFWS: Candidate (Category 2), CNPS rating: List 2, 1-3-1

Coastal barrel cactus is extremely abundant on south-facing exposures of the site (Plate 2 in Volume 1). Two of the more impressive populations, consisting of approximately 1,240 and 1,400 plants, are located in the northern-central and southeastern portions of the site. A total of approximately 8,000 individuals occur onsite. The plant is restricted to the dry coastal foothills within coastal sage scrub and grasslands, extending from the San Luis Rey River in Oceanside to just below Border Field Park along the U.S. international border in the U.S. In addition, the species also occurs in the foothills of the Sierra Juarez in Baja, California. A majority of the remaining populations in the U.S. occur in the South County region. Populations have been seriously decreased by habitat loss and collecting.

**Dudleya variegata*, Variegated Dudleya

*USFWS: Candidate (Category 2), CNPS rating: List 4, 1-2-2

The southern San Diego County region remains one of this species' principle distributional locations. This bulbous, ephemeral succulent was found in the earlier survey (PSBS 1989) in the disturbed native grassland.

**Muilla clevelandii*, Cleveland's Golden Star

*USFWS: Candidate (Category 2), CNPS rating: List 1, 2-2-2

This bulbous plant occurs in abundance in the disturbed native grassland. This plant is very rare due to coastal development, and this locale is considered an important site within the plant's known distributional range. Cleveland's golden star is restricted to southwestern San Diego County and Baja California.

**Harpagonella palmeri* var. *palmeri*, Palmer's Grappling Hook

*CNPS rating: List 2, 1-2-1

ERCE (1991) detected a major population of approximately 10,000 plants within the central part of the southern portion of the proposed development (Plate 2) in Volume 1. This is considered a large population for the San Diego County region. In addition, several smaller populations were found in the southern portion and in the southern part of the northern portion by ERCE and SEB. Palmer's grappling hook is restricted to heavier soils in San Diego, Orange, and Riverside Counties. The plant is restricted to clay soils located on dry slopes and mesas. This sensitive plant ranges from Los Angeles to San Diego County just above the U.S. international border in the Otay Mesa area in the U.S. In addition, the plant occurs to midway down the Baja California Peninsula, and is common on Santa Catalina Island. The population onsite is one of the largest known populations in the County. Populations have been decreased by agriculture and urban development.

**Adolphia californica*, California Adolphia

*CNPS rating: List 2, 1-2-1

A population consisting of several hundred plants of this green-stemmed shrub was discovered on the knoll south of the Miguel Substation. Additional populations are located in the northern, northwestern, and southern portions of the site (Plate 2 in Volume 1). This species occurs from Oceanside to the international border in heavier soils. The plant is restricted to the dry coastal foothills within coastal sage scrub and grasslands, extending from Morro Hill in Oceanside to Soledad and Chollas Valley, and southward well into Baja, California. This species is generally restricted to heavy soils, with the largest concentrations occurring in the Carlsbad area and southern San Diego County. The population onsite is locally but not regionally significant. Populations have been seriously decreased by habitat loss.

**Artemisia palmeri*, Palmer Sagebrush, San Diego Sagewort

*CNPS rating: List 2, 2-2-1

San Diego sagewort is scattered throughout San Diego County. A single population of this sagewort was located in the earlier survey (PSBS 1989a) in a rocky outcrop on the western flank of San Miguel Mountain, just inside the Rancho San Miguel boundaries (Plate 2 in Volume 1).

**Iva hayesiana*, San Diego-Marsh Elder, San Diego Poverty Weed
*CNPS: List 2, 2-2-1

This stream-side shrub is frequent in drainages on the site, especially in Wild Man's Canyon in the north-central part of the southern portion of the site. Additional populations were detected in wetlands in the northern and southern portions of the site (Plate 2 in Volume 1). The plant is restricted to alkaline wetland habitats (ephemeral streams, marshes, etc.) along the coastal and inland valleys from Carlsbad to just below the U.S. international border in the U.S. In addition, the plant occurs well into Baja, California. This species is still fairly abundant throughout its range. The population onsite is locally but not regionally significant. Populations have been decreased by agriculture and urban development.

**Salvia munzii*, Munz's Sage
*CNPS rating: List 2, 2-2-1

Munz's sage was observed on the western flank of San Miguel Mountain as well as near the dry reservoir along Proctor Valley Road. ERCE identified additional populations in the northern and southern portions of the site (Plate 2 in Volume 1). This species reaches its northern distributional limit on Dictionary Hill near the site.

**Stipa diegoensis*, San Diego Needle Grass
*CNPS rating: List 2, 3-1-1

A small population of this species was detected by ERCE to the west of Mother Miguel Mountain in the northern portion of the site. This perennial bunchgrass is restricted to several locations in southern San Diego County.

**Viguiera laciniata*, San Diego Sunflower
*CNPS rating: List 2, 1-2-1

This species is abundant on the project site, particularly in the northern and southern portions on steeper, dryer slopes (Plate 2 in Volume 1). It is a common component of drier slopes dominated by sage scrub in the project area, south to the international border.

**Selaginella cinerascens*, Mesa Clubmoss
*CNPS rating: List 4, 1-2-1

This species commonly occurs in openings within the sage scrub habitat throughout the site, and occurs throughout much of San Diego County.

**Dichondra occidentalis*, Western Dichondra, Pony Foot
*USFWS: Candidate (Category 3c), CNPS: List 4, 1-2-1

ERCE detected a single population of western dichondra on Mother Miguel Mountain in the eastern portion of the site. This species may be scattered throughout other portions of the site, but is easily overlooked. Western dichondra occurs in coastal San Diego and Orange Counties.

**Juncus acutus* var. *sphaerocarpus*, Spiny Rush

*CNPS rating: List 4, 1-2-2

Spiny rush is a relatively common wetland species scattered throughout San Diego County. Approximately 200 individuals of spiny rush were detected within the project site along a small tributary in the southern portion of the site (Plate 2 in Volume 1), and another 200 individuals in the northern portion. Scattered individuals were found in drainages in the northern portion. Restricted to alkaline wetland habitats (ephemeral streams, marshes, etc.) along the coastal inland valleys, foothills, and Colorado desert from San Luis Obispo to just below the U.S. international border in the U.S. The species occurs south to northern Baja, California. This species is still fairly abundant throughout its range.

Several additional sensitive plants are known to occur in the region (Smith and Berg 1988), but were not detected onsite. These species are listed in Table 1 in Appendix B of Volume 2. Due to the proximity of Rancho San Miguel to San Miguel Mountain and adjacent coastal mesas, the presence of several other rare and/or endangered plant taxa on the site is possible. Moreover, due to the sub-normal rainfall of recent years, other rare or endangered taxa may be expected on the site, especially those of an annual or perennial herbaceous nature.

Other sensitive plants are known to occur in the area, but are not expected on the Rancho San Miguel site due to inappropriate habitat conditions (Beauchamp 1986; Smith and Berg 1988). These species are described in Appendix B of Volume 2.

Sensitive Animals

Sensitive animal species are those listed by the USFWS (1989), CDFG (1990b), Remsen (1978), Williams (1986), Tate (1986), and Everett (1979). One federal and state listed endangered species, the peregrine falcon, was observed onsite. In addition, there were three sensitive reptiles and 17 bird species detected on the project site. Plate 3 shows the localities of some of these sensitive species in Volume 1. Table 3.3-3 lists species observed and potentially occurring on the project site. See Table 3.3-4 for an explanation of the sensitivity status codes. A complete description of the status, distribution, and presence of occurring and potentially occurring species is found in Appendix B of Volume 2. The following section provides a brief summary of the status of sensitive wildlife species found or potentially occurring onsite.

Invertebrates. No sensitive insects or other invertebrates were observed on the project site.

- **Euphydryas editha quino*, Quino Checkerspot Butterfly
- *USFWS: Candidate (Category 2), Petitioned for Listing

Quino checkerspot is not a common insect, especially in San Diego County where it is considered almost extinct (Emmel and Emmel 1973, Braun 1991). This species is known from the project vicinity (Faulkner and Braun no date). Quino checkerspot is restricted to its host plant, plantain (*Plantago erecta*). This plant does occur onsite. No individuals of this species were observed during any of the surveys, but no directed searches by a qualified biologist were made on the project site. The Quino checkerspot could be expected onsite.

- **Lycaena hermes*, Hermes Copper Butterfly
- *USFWS: Candidate (Category 2)

This species has a very restricted range, extending from northern Baja approximately 100 miles south of the border to Fallbrook in San Diego County approximately 50 miles north of the border. It is closely restricted to its host plant, buckthorn. No individuals of this species were observed during any of the surveys, but no directed searches by a qualified biologist were made on the project site. This species could be expected onsite.

Amphibians. No sensitive amphibian species were observed on the project site.

- **Rana aurora draytoni*, California Red-legged Frog
- *USFWS: Candidate (Category 2), State: Species of Special Concern

The only sensitive amphibian known from the general vicinity of the project is the California red-legged frog, considered endangered by the San Diego Herpetological Society. The California red-legged frog is not expected to occur onsite because of lack of habitat.

Table 3.3-3
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			
	Federal	State	Other	Likelihood of Occurring Onsite
INSECTS				
<i>Lycaena hermes</i> Hermes Copper Butterfly	C2	—	—	High: Status unknown.
<i>Euphydryas editha quino</i> Quino Checkerspot Butterfly	C2	—	—	High: Status unknown.
AMPHIBIANS				
<i>Rana aurora draytoni</i> California red-legged frog	C2	SC	SDHS	Not expected. Appropriate habitat does not occur onsite.
<i>Spea hammondi</i> Western Spadefoot				Detected.
REPTILES				
<i>Cnemidophorus hyperythrus beldingi</i> Orange-throated Whiptail	C2	SC	SDHS	Detected.
<i>Phrynosoma coronatum blainvillei</i> San Diego Horned Lizard	C2	SC	SDHS	Detected.
<i>Thamnophis couchi hammondi</i> Two-striped Garter Snake	—	—	SDHS	Detected.
<i>Anniella pulchra pulchra</i> Silvery legless lizard	—	—	SDHS	Not detected. Appropriate habitat exists.
BIRDS				
<i>Elanus caeruleus</i> Black-shouldered Kite	—	CFP	—	Occasional nonbreeding visitor.
<i>Haliaeetus leucocephalus</i> Bald Eagle	E	E, CFP	—	Low: Nonbreeding winter visitor only.
<i>Accipiter cooperi</i> Cooper's Hawk	—	SC	BL	Forages onsite, nesting nearby along Sweetwater River.

Table 3.3-3 (Continued)
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			Likelihood of Occurring Onsite
	Federal	State	Other	
<i>Accipiter striatus</i> Sharp-shinned Hawk	—	SC	BL	Detected.
<i>Buteo swainsoni</i> Swainson's Hawk	C2	T	EVE	Not detected; expected only as a very rare migrant.
<i>Buteo regalis</i> Ferruginous Hawk	C2	—	BL	Not detected; expected as a very rare winter visitor
<i>Aquila chrysaetos</i> Golden Eagle	—	SC	—	One breeding pair.
<i>Circus cyaneus</i> Northern Harrier	—	SC	BL	Occasional; possibly one breeding pair.
<i>Falco mexicanus</i> Prairie Falcon	—	SC	—	Occasional nonbreeding visitor.
<i>Falco peregrinus</i> Peregrine Falcon	E	E	—	One observation of a presumed transient.
<i>Cathartes aura</i> Turkey Vulture	—	—	EVE	Regular but apparently not nesting. Nested at least for- merly on San Miguel Mt.
<i>Athene cunicularia</i> Burrowing Owl	—	SC	EVE	Occasional visitor, apparently not breeding
<i>Thryomanes bewickii</i> Bewick's Wren	—	—	BL	Common.
<i>Campylorhynchus brunneicapillum</i> Cactus Wren	—	—	EVE	Eight singing birds detected by ERC; 12 territories reported by PSBS.
<i>Lanius ludovicianus</i> Loggerhead Shrike	—	—	BL	Present in small numbers.
<i>Poliophtila caerulea</i> Blue-gray Gnatcatcher	—	—	EVE	Detected apparently as a migrant only.
<i>Poliophtila californica</i> California Gnatcatcher	C2	SC	—	63 pairs detected by ERCE; 100 pairs reported by PSBS.

Table 3.3-3 (Continued)
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			Likelihood of Occurring Onsite
	Federal	State	Other	
<i>Ammodramus savannarum</i> Grasshopper Sparrow	—	—	EVE, BL	Detected.
<i>Aimophila ruficeps</i> Rufous-crowned Sparrow	—	—	EVE	Detected.
<i>Amphispiza belli belli</i> Sage Sparrow	—	—	BL	Detected.
<i>Geococcy californianus</i> Greater roadrunner	—	—	BL	Detected.
MAMMALS				
<i>Taxidea taxus</i> American Badger	—	SC	—	High: Appropriate habitat occurs.
<i>Bassariscus astutus</i> Ringtail	—	CFP	—	High: Appropriate habitat occurs.
<i>Macrotus californicus</i> California leaf-nosed bat	C2	SC	—	Low
<i>Plecotus townsendii pallescens</i> Pale big-eared bat	—	SC	—	Low
<i>Eumops perotis californicus</i> California mastiff bat	C2	SC	—	Low

¹ For an explanation of codes, see Table 3.3-4.

Table 3.3-4
SENSITIVITY CODES FOR TABLE 3.3-3

FEDERAL LISTED AND CANDIDATE SPECIES

E	=	Federally listed, endangered
T	=	Federally listed, threatened
C1	=	Enough data are on file to support the federal listing
C2	=	Threat and/or distribution data are insufficient to support a formal declaration
C3a	=	Extinct
C3c	=	Too widespread and/or not threatened

STATE LISTED SPECIES

E	=	State listed, endangered
T	=	State listed, threatened
CFP	=	California Fully Protected (CDFG)
SC	=	Species of Special Concern (Remsen or Williams)

OTHER

SDHS	=	Considered threatened by San Diego Herpetological Society
BL	=	Audubon Society Blue List (Tate 1986), a listing of bird species considered sensitive because their populations have been decreasing and they have suffered habitat loss
EVE	=	Everett (1979)

Reptiles. Three sensitive reptiles were observed during the surveys (PSBS 1989a).

**Phrynosoma coronatum blainvillei*, San Diego Horned Lizard

*USFWS: Candidate (Category 2), CDFG: Species of Special Concern

The San Diego horned lizard is considered endangered by the San Diego Herpetological Society (SDHS 1980) because of habitat destruction and collecting for the pet trade. San Diego horned lizards were detected by both PSBS and ERCE biologists, and are expected to inhabit much of the undisturbed flatter portions of the site.

**Cnemidophorus hyperythrus*, Orange-throated Whiptail

*USFWS: Candidate (Category 2), CDFG: Species of Special Concern

The orange-throated whiptail is considered threatened by the San Diego Herpetological Society (SDHS 1980). Orange-throated whiptails were detected by both PSBS and ERCE biologists although in very low numbers. This species could occur throughout scrub habitats onsite, although it would most likely be found on the flatter portions of the site.

**Thamnophis couchi hammondi*, Two-striped Garter Snake

The two-striped garter snake, considered endangered by the San Diego Herpetological Society (SDHS 1980), occurs in aquatic habitats. One two-striped garter snake was detected in an abandoned well by PSBS biologists. Its presence on the site would be limited to the wetland habitat areas.

One other sensitive reptile, the silvery legless lizard (*Anniella pulchra pulchra*), could occur on the site in sandy soils along drainages. A further description of its potential to occur onsite is found in Appendix B in Volume 2.

Birds

Seventeen sensitive bird species were observed during the two field studies by PSBS and ERCE. Species observed during the surveys, along with species potentially occurring on the site, are listed in Table 3.3-3. Plate 3, which is located in the pocket of Draft EIR 90-02 in Volume 1, shows the localities of sightings of California gnatcatcher, cactus wren, grasshopper sparrow, Cooper's hawk, and raptor nest sites. A detailed description of the biology, status, distribution, and potential for habitat utilization on the site is provided in Appendix B in Volume 2.

**Falco peregrinus anatum*, American Peregrine Falcon

*Federal: Endangered, State: Endangered

The peregrine falcon's endangered status is due primarily to pesticide contamination resulting in eggshell thinning. Until 1950, a few pairs nested in San Diego

County. The species still occurs in southern California as a rare visitor, primarily along the coast where it feeds on water birds. A single pair recolonized San Diego County in 1989, nesting on the Coronado Bridge. The bird seen at Rancho San Miguel by PSBS (1989a) was undoubtedly a migrant. Peregrine falcons probably occur occasionally at Sweetwater Reservoir, attracted by the abundant waterfowl and shorebirds, but the dry uplands of Rancho San Miguel are not their preferred habitat.

**Poliophtila californica*, California Gnatcatcher

*Federal: Category 2 Species, State: Species of Special Concern

The California gnatcatcher is currently a Federal Category 2 species and a State Species of Special Concern. On September 17, 1991, the San Diego Biodiversity Project and Palomar Audubon Society filed a petition with the USFWS to list the California gnatcatcher as endangered under the Federal Endangered Species Act of 1973. The USFWS has up to one year to make a final determination on the status of this species. Additionally, the Natural Resources Defense Council petitioned the CDFG to consider the status of the gnatcatcher under the State Endangered Species Act. If the Fish and Game Commission considers listing to be warranted, then the gnatcatcher will become a candidate species and a one-year review period would begin. During the August 1991 Commission hearings, the Commission did not find that the species warranted protection at that time.

PSBS reported 92 pairs of California gnatcatchers on the Rancho San Miguel property, 27 pairs just offsite and 25 solitary males (PSBS 1989b). Subsequent surveys by ERCE biologists in 1990 and PSBS spring surveys in 1991 detected 69 pairs onsite and 18 pairs just offsite (Plate 3 of Volume 1). Fifty-five pairs onsite and 14 pairs just offsite were observed in the northern portion, and 14 pairs onsite with 4 pairs offsite were observed in the southern portion. Surveys conducted for gnatcatchers at different times of the year and at different levels of intensity may explain the discrepancy between the results of the studies.

Areas utilized by gnatcatchers primarily in late summer and early fall were considered feeding/dispersal gnatcatcher habitat. Gnatcatchers observed in the early spring were considered breeding pairs. For purposes of determining breeding habitat use areas, it was assumed that locations of birds during the breeding season represented the center of that particular bird's territory. Breeding habitat was then assumed to include the area within a 20-acre circle, using the gnatcatcher sighting as the center of the circle. Breeding habitat consists of 837 acres. Habitat not used by the species during the surveys, but which appeared appropriate, was considered potential breeding habitat and amounts to 179 acres. These habitat are depicted in Plate 3 of Volume 1.

**Campylorhynchus brunneicapillum*, Cactus Wren

Recent taxonomic work indicates that the coastal population of the cactus wren in San Diego County may be a separate subspecies (Rea & Weaver 1991). However, this proposed change in the cactus wren taxonomy has not received official sanction.

The coastal population of cactus wren has been reduced to approximately 400 pairs in the U.S. and 200 pairs in San Diego County (Weaver 1988). Nearly all known colonies of cactus wren are threatened by proposed developments. If the coastal population is a distinct subspecies, then the San Diego cactus wren (*C. diegensis*) is the most sensitive wildlife species on the site. PSBS (1989a), and ERCE results were combined and are shown in Plate 3 of Volume 1.

**Elanus caeruleus*, Black-shouldered Kite

*State: Fully Protected

The black-shouldered kite was reported by PSBS (1989a) biologists as an "occasional" species at Rancho San Miguel. There are no trees suitable for kite nesting here, but the species very likely nests a short distance to the north in the riparian woodland along the Sweetwater River and uses Rancho San Miguel to some degree for foraging.

**Accipiter cooperi*, Cooper's Hawk

*State: Species of Special Concern

As with the black-shouldered kite, PSBS (1989a) biologists noted Cooper's hawk as "occasional" at Rancho San Miguel. Cooper's hawks are known to nest in riparian woodland on the Sweetwater River (Unitt 1984, WESTEC 1987) and would use the essentially treeless habitat of Rancho San Miguel for foraging only. The species would be most frequent at Rancho San Miguel in winter, when migrants from the north augment the local breeding population.

**Accipiter striatus*, Sharp-shinned Hawk

*State: Species of Special Concern

The Sharp-shinned hawk is considered a third priority species of special concern by the CDFG because of declines in its breeding range (Remsen 1978). This species occurs in San Diego County as an uncommon migrant and winter visitor only. It was observed twice by PSBS biologists during winter 1991 and was observed flying over the northern portion of the property. Sharp-shinned hawks are expected to make limited seasonal use of habitat on the site.

**Aquila chrysaetos*, Golden Eagle

*State: Species of Special Concern

The golden eagle is protected under the Bald Eagle Protection Act, and is considered a third-priority species of special concern (Remsen 1978, CDFG 1990b). One pair was noted regularly at Rancho San Miguel by both PSBS and ERCE biologists, and PSBS (1989a) noted two historic nest sites near the property's eastern boundary in tall eucalyptus trees, one within the property and another just outside (Plate 3 in Volume 1). The pair observed onsite presumably maintains additional alternate nest sites on cliffs on San Miguel Mountain. In addition, ERCE biologists noted an immature golden eagle

foraging over the northwestern part of Rancho San Miguel. The extensive foraging habitat afforded by the open space of Rancho San Miguel and other large south county parcels is important to these resident eagles.

**Circus cyaneus hudsonius*, Northern Harrier

*State: Species of Special Concern

The northern harrier is considered to be declining in San Diego by Everett (1979), and is on the Audubon Society's Blue List (Tate 1986). The Blue List is a listing of bird species considered sensitive because their populations have been decreasing and they have suffered habitat loss. This species is known to nest just east of Rancho San Miguel in Proctor Valley (Unitt 1984), and PSBS (1989a) reported seeing a pair during the breeding season. ERCE's observation of a male on 6 April 1990 also suggests that harriers may breed in Rancho San Miguel in very small numbers (Plate 3). The northern harrier places its nest on the ground in grassland or open sage scrub.

**Falco mexicanus*, Prairie Falcon

*State: Species of Special Concern

The prairie falcon, a third-priority species of special concern (Remsen 1978), was reported by PSBS (1989a) as an "occasional" species at Rancho San Miguel. These birds were presumably winter visitors, as the prairie falcon is not known to nest within 20 miles of the site.

**Athene cunicularia*, Burrowing Owl

*State: Species of Special Concern

PSBS (1989a) reported seeing several burrowing owls on the project site, and the habitat at lower site elevations is suitable for them. ERCE biologists, however, did not find either the owls or ground squirrel colonies that would offer them burrows. The burrowing owls noted by PSBS may have been migrants or winter visitors. They could also have been residents that were extirpated by recent agricultural activity eliminating ground squirrel burrows. The nearest known recently active colony is at Lower Otay Lake (Unitt 1984).

**Poliophtila caerulea amoenissima*, Blue-gray Gnatcatcher

The blue-gray gnatcatcher breeds sparsely in montane chaparral and desert riparian areas in San Diego County, where it is declining (Everett 1979). PSBS (1989b) did not report the blue-gray gnatcatcher, but ERCE biologists saw several in the northwestern portion of Rancho San Miguel on 23 March 1990. Evidently these were all migrants because the species was not encountered on later visits. The locality nearest Rancho San Miguel where the blue-gray gnatcatcher is known to have nested recently is along the Sweetwater River about 10 miles to the northeast.

**Cathartes aura*, Turkey Vulture

The turkey vulture has declined seriously in San Diego County (Everett 1979, Unitt 1984). PSBS (1989a) biologists saw them soaring frequently over Rancho San Miguel during the winter. The species formerly nested on San Miguel Mountain (Unitt 1984), but ERCE biologists did not see it at Rancho San Miguel in March and April 1990, the season when it would normally have been nesting.

**Lanius ludovicianus*, Loggerhead Shrike

The loggerhead shrike is on the Audubon Society's Blue List (Tate 1986), but is a fairly common breeding species in San Diego County. Both PSBS (1989a) and ERCE biologists noticed shrikes regularly in small numbers at Rancho San Miguel. The species is known to nest nearby along the Sweetwater River, and some undoubtedly nest at Rancho San Miguel.

**Ammodramus savannarum*, Grasshopper Sparrow

The grasshopper sparrow is a declining species that has no special regulatory status, but that has been eliminated from much of its range in San Diego County and is considered sensitive on the local level (Everett 1979). PSBS (1989a) plotted sightings of 13 grasshopper sparrows on Rancho San Miguel and in adjacent grasslands of the Sweetwater Reservoir property located within 10 meters of the site. ERCE located six birds, three of which were in areas where PSBS had not reported them. The areas where these birds were observed are mapped as grasshopper sparrow habitat in Plate 3 of Volume 1 and represent habitat used by this species.

**Aimophila ruficeps*, Rufous-crowned Sparrow

The rufous-crowned sparrow is considered sensitive by local biologists. Much of Rancho San Miguel is covered with open scrub ideal for this species, and both PSBS (1989a) and ERCE found this species to be common there. All undisturbed sections of open sage scrub habitat were occupied by this species. The population is estimated at several dozen pairs.

Amphispiza belli, Sage sparrow

Federal: potential Candidate (Category 2)

The coastal subspecies of the sage sparrow is currently being considered as a Category 2 candidate species by the USFWS. A determination of its status will be completed this fall or winter. This subspecies is found on coastal slopes and interior foothills (Dunn and Barrett 1980). It occurs in young chamise chaparral, dry coastal sage scrub with cactus, and in the ecotone between chamise chaparral and coastal sage scrub.

**Geococcyx californianus*, Greater Roadrunner

The greater roadrunner is on the Audubon Society's Blue List (Tate 1986). The roadrunner is considered a common species at Rancho San Miguel because ERCE biologists noted one or two individuals on every visit.

Five sensitive species not detected during any of the surveys have a limited potential to occur on the site. One of these, the bald eagle (*Haliaeetus leucocephalus*), is a federal and state listed endangered species. Another is the Swainson's hawk (*Buteo swainsoni*), a state listed endangered species. Both species would only utilize the site for winter foraging on an infrequent basis. A list of these sensitive species is provided in Table 3.3-3.

Mammals. No sensitive mammalian species were observed during any of the surveys. Table 3.3-3 lists sensitive mammals that could occur on the project site and Appendix B of Volume 2 describes these species and their potential to occur onsite.

Impacts

Development of the Rancho San Miguel property as currently proposed, including roadways, will have a significant adverse impact on many individual biological resources, as well as the rich biodiversity of the area. It is assumed that all native vegetation and sensitive resources within the lot limits will be impacted. For purposes of this impact analysis, it is assumed that impacts resulting from fuel management practices will be restricted to within the lot lines.

Biological resources on a site can be grouped into two areas: specific identifiable resources such as individual species and distinct features; and less tangible attributes such as wildlife habitat, biodiversity, and portions of a larger open space system. For each resource, a discussion follows describing its relationship to local, regional, and range-wide occurrences.

The Rancho San Miguel site supports one of the richest and most diverse assemblages of unique and sensitive biological resources in southern California. Thirteen sensitive plant species and twenty sensitive animal species are known to occur on the project site. Additionally, the site is potentially the single largest concentration of California gnatcatchers in southern California, and may support the largest known population of Otay tarweed in San Diego County. Regionally significant populations of coast barrel cactus and San Diego cactus wren are also present onsite. Individually, many of the 33 sensitive species found on the site would be considered significant resources. The high diversity and large population sizes of these resources compounds the significance of the site for biological resources.

The location of the site is also important in that it lies within a larger block of contiguous open space to the north, east and south, and is adjacent to one of the largest populations of the federally endangered least Bell's vireo, which occurs along the upper

reaches of the Sweetwater Reservoir. The northern portion of the project is contiguous with an existing gnatcatcher population occurring throughout the Sweetwater River Valley to just above Singing Hills Golf Course that likely exceeds 150 pair. This could represent as much as 10 percent of the U.S. population of gnatcatchers. The northern portion of the site serves as a major movement corridor between the Otay Mesa area to the south and the Sweetwater Reservoir.

As noted above, Rancho San Miguel is part of a larger contiguous block of primarily native and agricultural lands continuing from the Sweetwater Reservoir south to the international border, and eastward along the Sweetwater River. This region supports one of the largest contiguous blocks of native vegetation, especially coastal sage scrub, remaining in San Diego County, and includes a high diversity and density of sensitive plant and animal species. Additionally, this region likely supports the largest contiguous gnatcatcher population remaining in the county.

The properties located immediately adjacent to Rancho San Miguel include the Sweetwater Reservoir and open space associated with Rancho San Diego to the north, undeveloped lands and open space for several projects to the northeast and east, and the Otay Water District, Salt Creek Ranch and Salt Creek Ranch I to the south. Bonita Meadows occurs to the southwest and west of the project. Each of these properties support a variety of sensitive biological resources. The area around the Sweetwater Reservoir supports a significant population of California gnatcatchers and cactus wrens, and supports one of the densest least Bell's vireo populations in the United States. Rare plants including Otay tarweed and coast barrel cactus also occur on this property. Areas to the north and east support a large gnatcatcher population, and Mother Miguel Mountain has one of the richest rare plant assemblages in the county. The remaining open space areas along the southern portion of the site also have numerous sensitive resources, although in more limited numbers.

This combination of a high diversity of rare plant and animal species with high population densities, and its proximity within a much larger regional open space preserve cumulatively make this site one of the most significant parcels of undeveloped land remaining in San Diego County for biological resources. Impacts to biodiversity of the site are significant.

The following is an itemization of impacts for the proposed project. Impacts of the project alternatives are described in Section 5 of Draft EIR 90-02.

Vegetation/Habitats

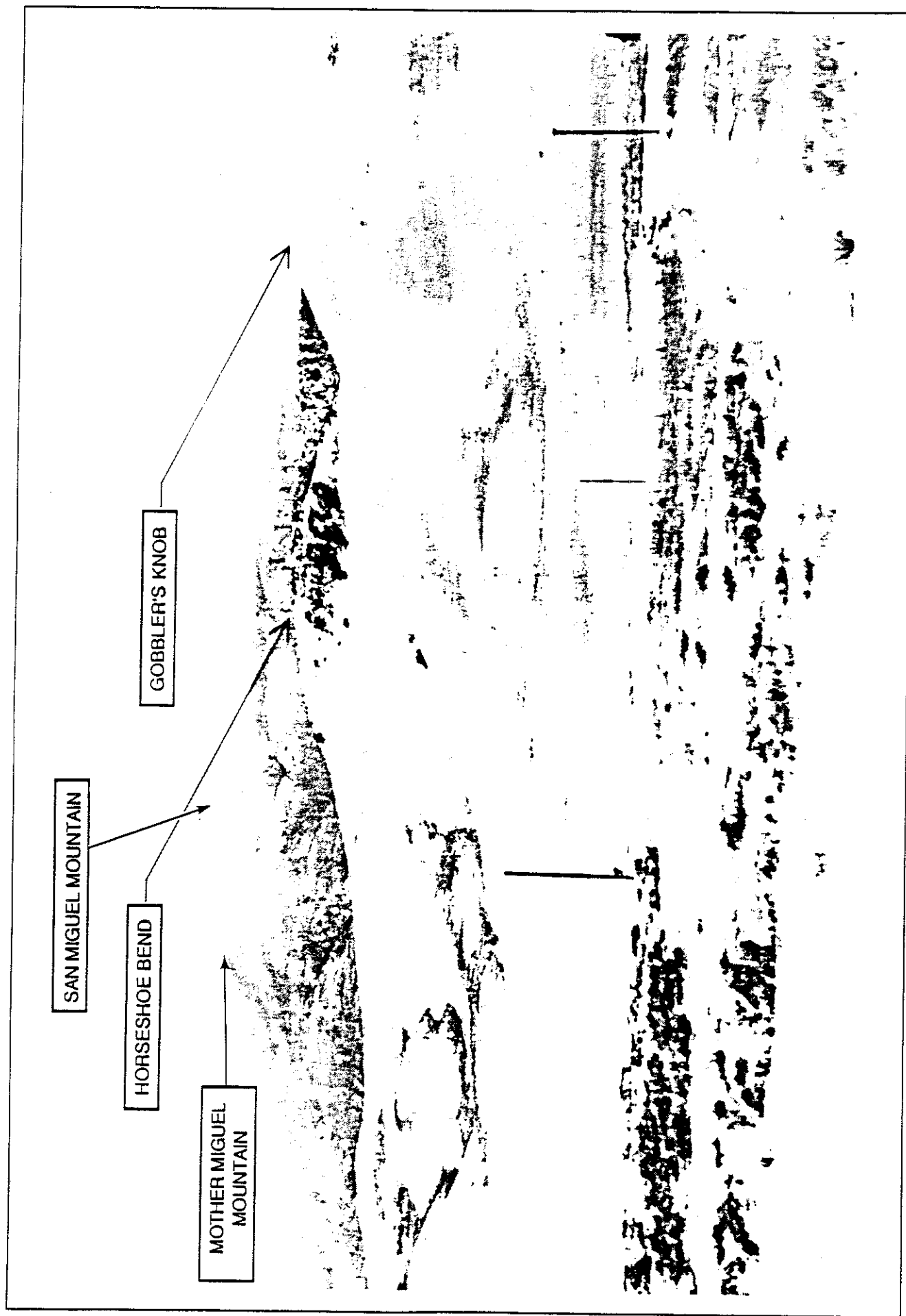
Table 3.3-5 shows the project-related reduction of habitats by acreage. These data assume that all potential open space areas onsite shall remain "intact" as natural biological open space, except for parks. Proposed project development is concentrated in the western and southern portions of the site, with the majority of open space proposed in the central and eastern portions of the site, including the western slopes of San Miguel Mountain. Figure 3.3-1 depicts project impacts to sensitive habitats.

Impacts to vegetation were divided into two categories: direct impacts and indirect impacts. Direct impacts concerned areas that would be developed or areas where grading or other permanent types of development activities would occur. This would include backyard areas where no grading may be proposed, but degradation of the habitat would result from use of the site by future homeowners. Indirect impacts to biological resources would occur in areas that would be to a greater or lesser extent surrounded by housing units. Such "islands" of habitat would probably decrease in viability for plant and animal species, as discussed below and in Appendix B, because of an increase in man-related disturbances. Fragmented communities have a diminished capacity to recover from disturbance.

Impacts to sensitive habitats are discussed below:

Wetlands - Wetlands include dry marsh/riparian scrub and riparian scrub dominated by mulefat. Direct elimination by filling of wetlands and potential degradation or elimination by placement of wetlands within residential lot boundaries could result in wetland impacts of up to 3.1 acres. Although these habitats are not of high quality onsite, the degradation or filling of up to 3.1 acres of wetland habitat is considered a significant effect given the rarity of this resource, its value to wildlife, its recognition by the county and the resource agencies as a sensitive habitat, and the fact that portions of the washes onsite support two sensitive species of plants, San Diego marsh elder and spiny rush. Over 80 percent of the impacts occur within backyard areas of proposed lots, and would not result in the complete elimination of the habitat.

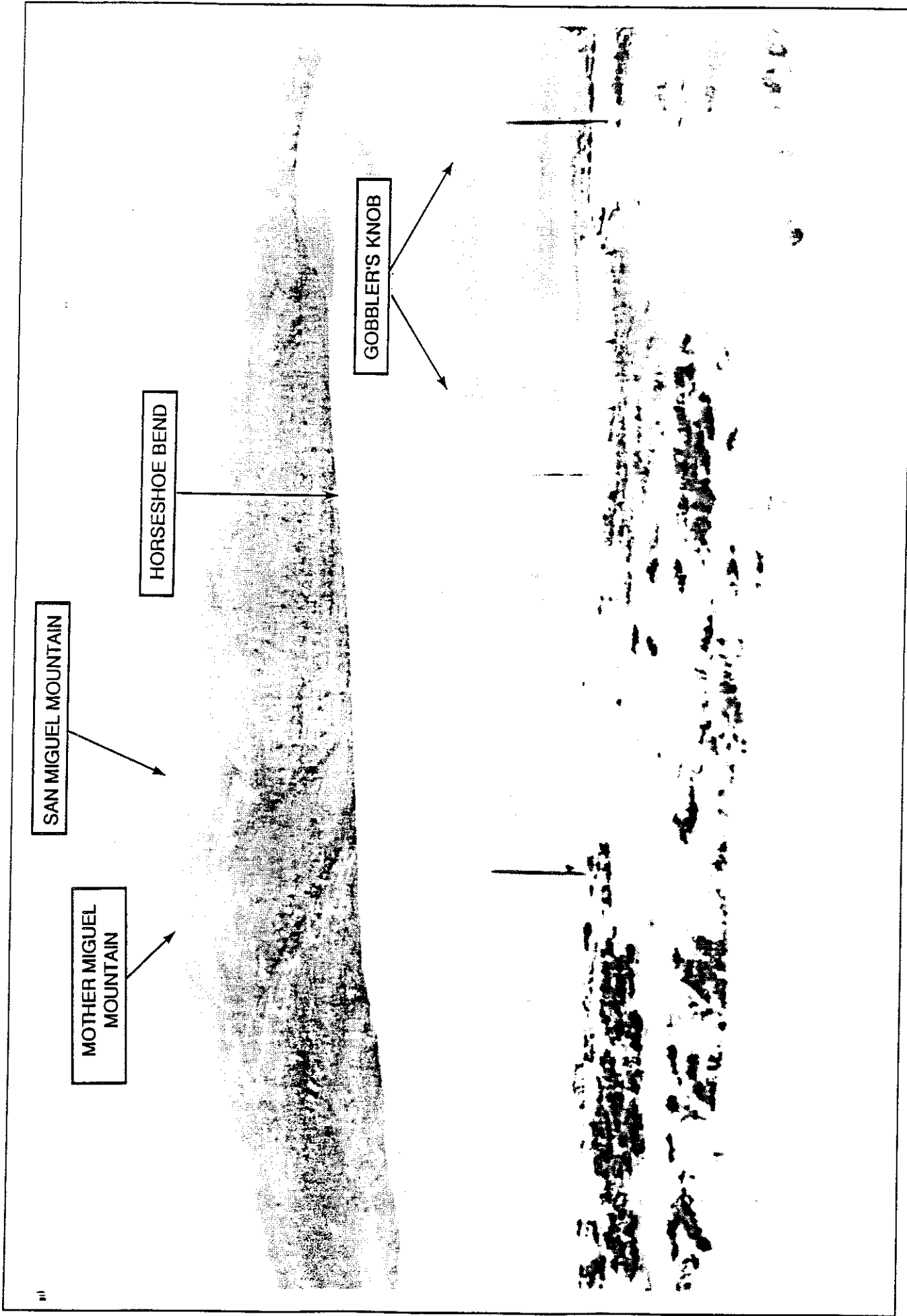
Filling of wetlands would require a CDFG 1603 Agreement. Impacts to 3.1 acres of wetlands may require a Pre-discharge Notification submitted to the U.S. Army Corps of Engineers and a 404 permit could also be required.



FIGURE

Existing Dominant Landforms (View Looking Northeast from Blacksmith Road)

3.2-4



Visual Quality

The replacement of a generally natural area with residential development on the project site would alter views to the site experienced by receptors located south, west, and northwest of the proposed project. The overall visual impact of substituting homes for natural scenes is not considered to be significant, as this area has been designated for some form of residential development by the City of Chula Vista General Plan.

Proposed landform grading in the southern portion would eliminate two landforms (Gobblers Knob and Horseshoe Bend). This is a significant landform impact. This impact has a significant visual component as well, because these features are highly visible from adjacent public areas or neighborhoods.

Views to Mother Miguel and San Miguel Mountains from a short portion of East H Street that runs through the southernmost tip of the Rancho San Miguel site would be modified by grading and development associated with the proposed project. The mountains would continue to be in the background view; however, the foreground view would change from hillsides and landforms dominated by natural vegetation to residential development characterized by landscaped manufactured slopes and single family dwellings. The impacts to scenic roadway views from this portion of the proposed project are considered to be significant. Along most of the alignment of East H Street, the foreground view would be dominated by each development the road passes through. For these portions of East H Street the visual impacts of the Rancho San Miguel development would not be significant.

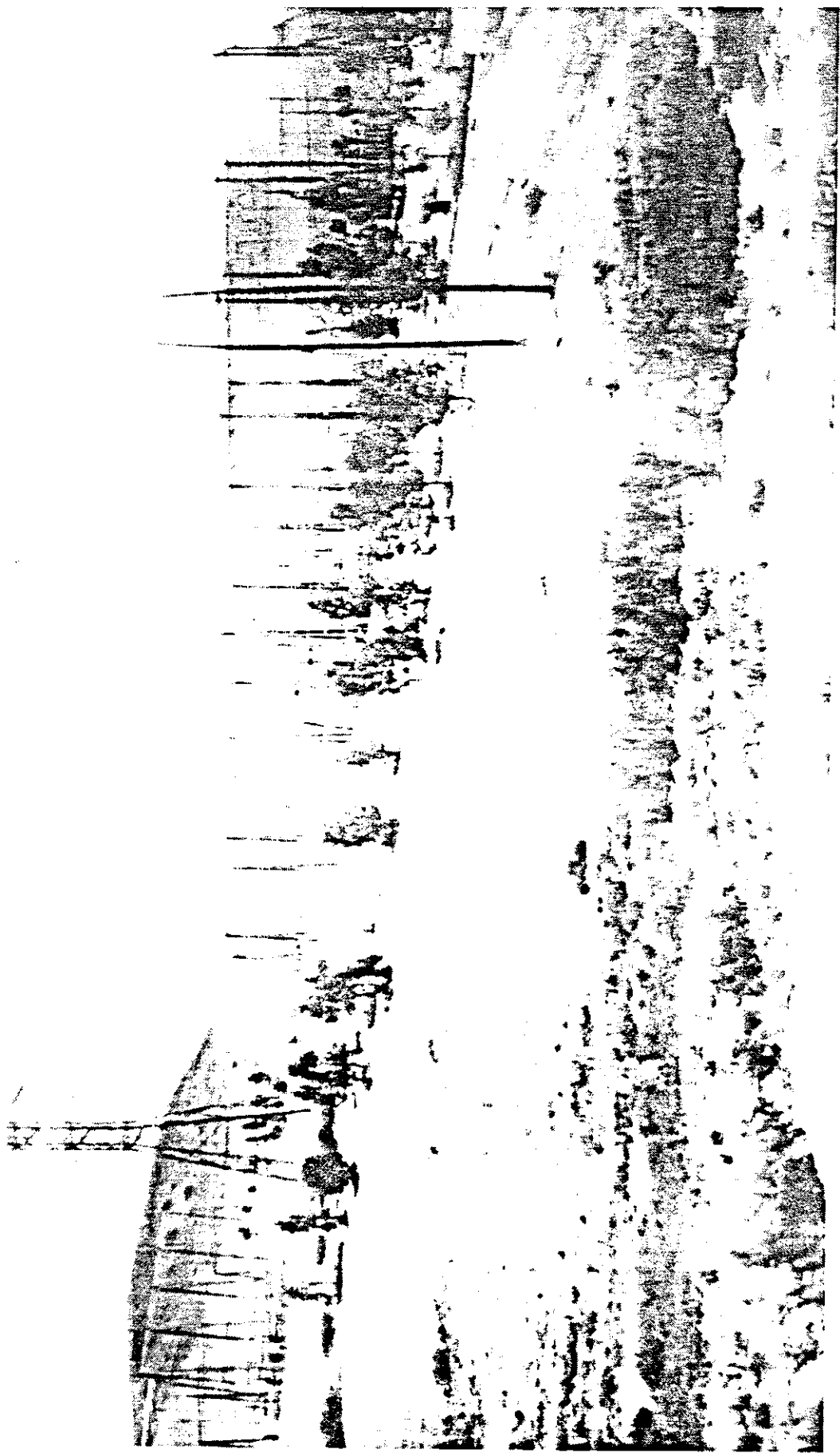
The project would require three onsite tanks for potable water storage. The largest (3 million gallons) would be located in the open space area at the northern end of Horseshoe Bend in the southern portion of the site. The other two water tanks would be approximately 1 million gallons each; one would be located on a hill in the northeastern corner of the southern portion and one would be located in the vicinity of the proposed conference center in the northern portion. In general, water tanks are large, located at elevations higher than the area they serve, and not easily camouflaged. All three of the tanks proposed for this project would be located in or adjacent to open space which is part of the Chula Vista greenbelt. In addition, tanks located in the southern portion of the site would be visible from East H Street, a designated scenic roadway. Visual impacts due to construction and placement of the water tanks are unknown at this time, and will be analyzed at the SPA Plan level when accurate locations, design, and architectural features of the tanks are available.

Some of the proposed residences will be located within 1,000 feet of the SDG&E Miguel Substation. For most of the residences, the dominance of the facility will be minimized by intervening topography, hillsides that serve as a backdrop, and development plans that orient residences away from the substation. A limited number of lots located in the southwestern end of the northern portion of the site will be at low elevations where the topography is oriented towards the substation, so that the substation,

with its industrial appearance, will be the dominant view. The visual impacts associated with locating residences in close proximity to the SDG&E substation are illustrated by the photograph in Figure 3 2-6. The substation is partially screened by a mix of young eucalyptus trees.

Eucalyptus sideroxylon, or "red iron bark" eucalyptus is a fairly bushy type of tree which can grow to 20 to 80 feet high. *Eucalyptus cladocalyx*, or "sugar gum" eucalyptus, is more wispy and sparse, growing to 75 to 100 feet tall. *Eucalyptus lehmannii*, or "bushy yate" eucalyptus, remains fairly low, dense, and bushy, only growing to 20 to 30 feet tall. These trees tolerate a wide range of soil types and are drought tolerant. For the fewer than 10 lots with views similar to that illustrated in Figure 3.2-6, the visual impact of being located next to the SDG&E substation would be significant if the homes were built now. However, the eucalyptus trees planted now are expected to provide an adequate screen within 5 years. Figure 3.2-7 illustrates the view at the same location but with the young eucalyptus trees on SDG&E property altered by computer simulation techniques to be roughly twice in size. This change in height from approximately 20 feet to 40 feet is well within the expected growth capability of the trees. One additional tree was placed in the extreme left edge of the simulated photograph. Figure 3.2-7 demonstrates that the dominant view of the substation will eventually be effectively screened by a dense stand of tall trees, most of which exist, although they have not yet reached full growth. Provided the trees are properly maintained and reach full growth, visual impacts of being located near existing SDG&E facilities are not significant for these lots.

Transmission lines traverse the project area in utility power line corridors. The height of the lattice tower structures that support the transmission lines varies based upon siting variables such as topography, wind, ground clearance, etc. SDG&E estimates that the range of height of existing lattice towers within easements located within the Rancho San Miguel project site is from 80 to 125 feet (Siino 1991). The visual impacts associated with locating residential development adjacent to transmission lines are considered to be adverse but not significant, as electrical lines, towers, and poles are common features of many urban landscapes, including rural residential areas.



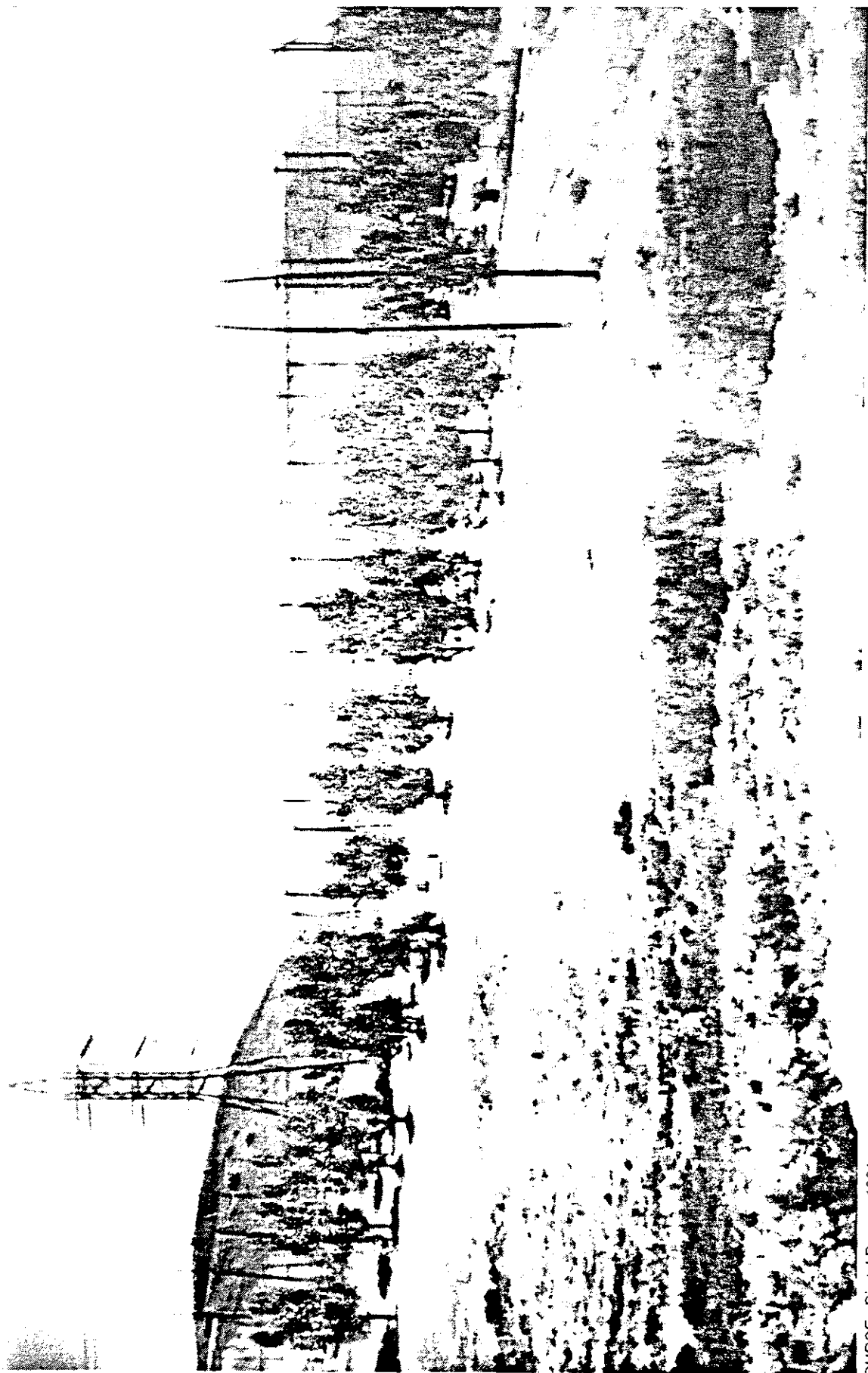
FIGURE

3.2-6

View of SDG&E Substation from Southwestern Corner of Northern Portion

The substation will be undergoing expansion in the future (as discussed in Section 3.1, Land Use); therefore, future vistas will be affected. The expansion is a planned activity of SDG&E, which is directly related to ensuring that the electrical energy needs of the service area are met. The impacts to visual quality from the proposed expansion are not significant for most of the development. However, as discussed in land use, views from lots adjacent to the planned expansion area (along the northern perimeter of the southern portion, overlooking Wild Man's Canyon) will eventually change from canyon and hillside with single power lines, to a more dense network of towers, poles, wires, and structures associated with the planned SDG&E expansion. Placing these lots at a location where residents may eventually experience industrial-type views from the proposed expansion of this major SDG&E facility is a significant impact of the proposed GDP.

See discussion of generalized land use impacts of the proposed project on the SDG&E Substation facility in the Land Use Section of this document.



SOURCE: Digital Design, 1991

FIGURE

3.2-7

Computer Simulation of Screening Effect with Enhanced Tree Growth



Mitigation

Landform

Impacts associated with grading for proposed visitor facilities in the northern portion are unknown at this time, and shall be evaluated at the SPA Plan level.

A substantial amount of grading is proposed for the southern portion of the project. To reduce general grading impacts, the applicant must demonstrate compliance with hillside development guidelines during the SPA Plan review to the satisfaction of city planning staff.

Landform (and visual) impacts associated with the virtual elimination of Gobblers Knob and Horseshoe Bend in the southern portion are unmitigable with the project as revised. Reduction to insignificance of this impact would require a major redesign of the proposed project.

Visual Quality

Impacts associated with siting and design of water tanks are unknown at this time, and shall be evaluated at the SPA Plan level.

The proposed grading and development in the southern portion of the site would impact views to Mother Miguel and San Miguel Mountains from a short portion of East H Street that extends through the project site. These impacts can be mitigated to below a level of significance by the implementation of landscaping and development plans consistent with General Plan guidelines for scenic roadways.

To potentially reduce visual impacts associated with located residential lots adjacent to a large electrical substation to below a level of significance at the General Development Plan level of review, the applicant shall implement the measures listed below:

- Provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper describing future SDG&E expansion plans, to the extent feasible. Provide buyers of these lots with a Grant Deed containing a provision describing future SDG&E expansion plans, to the extent feasible. This requirement will ensure that information regarding SDG&E's future expansion plans are disclosed to all subsequent home buyers. The Rancho San Miguel CC&Rs shall also contain information regarding the expansion plans for the SDG&E substation to provide disclosure to subsequent home buyers.
- Achieve general visual separation through a comprehensive buffer plan at the SPA plan level of analysis which includes measures such as landscaping, significant topography variation (including use of natural topography as well as berming), and homesite orientation for houses near the SDG&E property. Specific measures proposed by SDG&E are as follows:

- Establishment of separation by development setback incorporating landscaped greenbelt or residential collector street;
- Achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses near the substation property;
- Utilization of graded materials to construct view screening landscaped mounds;
- Provision for SDG&E to view the final plans so that visual impacts can be better determined and, at that time, additional landscaping and screening may be necessary to mitigate visual impacts.

Based upon the contents of this comprehensive buffer plan, the significance of the visual impact of the future SDG&E substation expansion plans will be reviewed at the SPA plan level.

- Provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvement on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance.
- Continue to coordinate with SDG&E throughout the processing of SPA Plans for this project.
- Prior to approval of any SPA plans, the applicant shall submit a legal document which commits the applicant to not oppose SDG&E's decision to process its expansion plans through the City provided that: (i) this project's processing time is not delayed as a result of SDG&E's processing; (ii) the City treats the two projects as separate processes, with separate hearing schedules; and (iii) SDG&E's processing is not conducted at the applicant's expense.

Two additional measures are suggested by SDG&E to mitigate impacts of the future expansion of the substation facility:

- Location of the commercial center adjacent to the southwest boundary of the substation;
- Location of Bonita Miguel Road (San Miguel Ranch Road) adjacent to the southwest boundary of the substation;

However, these measures would require a significant redesign of the proposed project and are not proposed to be included. In the opinion of staff, these measures are not necessary in order to mitigate the issue of land use compatibility with the SDG&E facility to below a level of significance.

It is anticipated that implementation of these measures will reduce the visual impacts of this project on the SDG&E facility to a level below significance at the GDP level; however, this issue will be analyzed anew at the SPA plan level of analysis, which is the next regulatory planning level required by the City of Chula Vista, in order to determine the significance of this impact after the applicant has complied with the mitigation measures contained within this GDP EIR.

Analysis of Significance

Several issues associated with the project as revised will require subsequent analysis at the SPA Plan level, including general grading plans for the entire site, grading associated with visitor facilities in the northern portion of the site, and siting and design of proposed water tanks. The impacts related to these issues are unknown at this time. Landform grading in the southern portion of the site will result in impacts that are unmitigable with the project as revised. Visual impacts to the portion of East H Street that passes through the proposed site will be reduced to below a level of significance by the proposed mitigation measures. Visual impacts associated with locating a limited number of residences in the southwestern corner of the northern portion close to the existing SDG&E substation are not significant because existing landscaping planted and maintained by SDG&E is expected to effectively screen the existing electrical substation. It is anticipated that likely future visual impacts to lots placed near the planned expansion areas for the SDG&E substation are mitigable with a commitment to the mitigation measures outlined above; however, the significance of this issue will be further reviewed after implementation of the mitigation measures outlined in this document at the SPA Plan level.

3.3 BIOLOGICAL RESOURCES

A biological report of the subject property was conducted by Pacific Southwest Biological Services, Inc. (PSBS) in 1989. The zoological portion of the survey was conducted in 1989, while the botanical portion was conducted on various occasions between 1974 and 1989. A California gnatcatcher (*Polioptila californica*) study was conducted in 1989 (PSBS 1989b). ERC Environmental Services and Energy Co. (ERCE) subsequently conducted surveys in 1990 focusing on sensitive biological resources, especially the California gnatcatcher and sensitive plant species. Sweetwater Environmental Biologists (SEB) conducted additional focused surveys in 1991. Additional gnatcatcher surveys were conducted in 1991 by PSBS. This section is a summary of the PSBS 1989 survey reports (Appendix B) in Volume 2 and additional surveys and field work conducted by ERCE in 1990 and PSBS and SEB in 1991. Additional information on topography, soils, and surrounding land uses is contained in the Biological Technical Report, prepared by SEB and ERCE, in Appendix C in Volume 3.

Existing Conditions

Vegetation

Previous uses of the area as a cattle/dairy enterprise and the occurrence of recent fires have disturbed portions of the vegetation. A majority of the northern portion of the site retains high-quality native vegetation communities, however, much of the southern portion has been heavily disturbed by agricultural practices. Although the property was extensively burned in the 1970 Laguna fire, plant communities had recovered by 1974 to a recognizable state (Beauchamp and Rieger 1974). Notable unburned areas include the 980-foot hill southwest of Ricky Dam, covered by Diegan coastal sage scrub, and the 713-foot Trout Hill northeast of the SDG&E Miguel Substation, mantled by an almost pure stand of chamise (*Adenostoma fasciculatum*) (Plate 2 in pocket at end of Volume 1 of this document).

Plant communities identified at the Rancho San Miguel site by SEB and ERCE follow Holland (1986) and include PSBS community designation equivalents identified in parentheses:

- Southern Mixed Chaparral (Mixed Chaparral).
- Diegan Coastal Sage Scrub (Diegan Phase of Inland Sage Scrub).
- Dry Marsh/Riparian Scrub (Dry Marsh/Wetland).
- Riparian Scrub, mulefat association (Mulefat Scrub Riparian).
- Non-native Grassland.
- Disturbed California Native Grassland (Native Grassland/Clay Lens)

Floral nomenclature used throughout this report follows that of Munz (1974) and Beauchamp (1986), while common names in most cases follow Higgins (1949).

Diegan coastal sage scrub onsite is dominated by shrub species including: California sage (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*). South facing slopes had significant stands of San Diego viguiera (*Viguiera laciniata*). Portions

of the steeper north facing slopes supported sage scrub dominated by lemonade berry (*Rhus integrifolia*) and buckthorn (*Rhamnus crocea*). For mapping purposes, however, these areas are mapped as Diegan coastal sage scrub due to the dominance of plants associated with that plant community. Several areas of sage scrub have been heavily grazed and previously burned but are in the process of natural successional recovery. The bulk of the subject property is covered by Diegan coastal sage scrub; approximately 1,922 acres.

Southern mixed chaparral onsite is restricted to small areas on the higher portions of the hills and slopes. Characteristic chaparral species include: chamise (*Adenostoma fasciculatum*), sugarbush (*Rhus ovata*), and mission manzanita (*Xylococcus bicolor*). Aside from the unburned chamise stand on Trout Hill, chaparral was encountered at four locations on Mother Miguel Mountain and also at the eastern boundary of the site. Southern mixed chaparral occupies approximately 109 acres onsite.

Chamise chaparral, located on Trout Hill, is dominated by chamise almost to the exclusion of all other plants. Approximately 23 acres are occupied by this community.

Three dirt reservoirs and five primary drainages are found on the site. The reservoirs are dammed drainages; they are soil lined and were created by ranchers for livestock use. The three reservoirs on the property and five primary drainages contain various shoreline and sub-emergent flora adapted to high alkalinity and seasonal water deprivation; the plant community is described as dry marsh/riparian scrub habitat. The reservoirs were dry most of the year during the 1989 and 1990 surveys, but were filled and overflowing during 1991 surveys. The aquatic plants found in these water bodies are not in themselves rare, but such situations in San Diego County are. The littoral associations are subject to complete desiccation in summer months. Seepage from the larger impoundments, however, stimulates scattered mulefat (*Baccharis salicifolia*), willow (*Salix* sp.) and tamarisk (*Tamarix* sp.) invasion into these associations.

Riparian scrub, mulefat association varies from a community dominated by willow species to a sparse herbaceous scrub dominated by mulefat. The mulefat association of riparian scrub habitat is found in scattered locales along ephemeral streambeds and reservoirs onsite. Drainages with reservoirs have this low quality or incipient wetland vegetation both upstream and downstream of the reservoirs. The onsite road area is dominated by this mulefat scrub association and supports scattered clusters of arroyo willow (*Salix lasiolepis*). Wetland habitat, including the riparian scrub, mulefat association and the dry marsh/riparian scrub habitat, occupies approximately 13.1 acres onsite.

The non-native grassland is composed of species originating from the Mediterranean region, including wild oat (*Avena barbata*), foxtail (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), field mustard (*Brassica geniculata*), and vinegar weed (*Trichostema lanceolatum*). Several native elements also occur, e.g., tarplant (*Hemizonia fasciculata*) and telegraphweed (*Heterotheca grandiflora*). Non-native grassland occupies

approximately 506 acres onsite.

Disturbed native grassland occurs in the northeastern area of the site and occupies approximately 16 acres. Purple needlegrass (*Stipa pulchra*) occurs over scattered portions of this habitat. Soils are composed of a clay lens. The original composition of the native grassland on this site is unknown, but the increased number of non-natives reduces the quality of the native grassland to a disturbed condition. If disturbances increase or the types of disturbances change, the habitat could be converted to non-native grassland. There are substantial bulbous plant populations, including wild hyacinth (*Dichelostemma pulchellum*), wild onion (*Allium praecox*), golden stars (*Bloomeria crocea*), the rare Cleveland's golden star (*Muilla clevelandii*), and variegated dudleya (*Dudleya variegata*).

Flora. A total of 247 species of plant taxa were observed on the site by PSBS (1989a); of these, 62 were non-native (Appendix B in Volume 2). An additional 20 species of plant taxa were observed by ERCE during site surveys, including two non-native species. Additional infrequently occurring species undoubtedly inhabit the site, primarily at the higher elevations. In addition, some sensitive species noted at nearby San Miguel Mountain could occur onsite.

Wildlife

Wildlife Habitat. The value of a site to wildlife is dependent on physical and biological factors. Physical and biological diversity are especially important in providing high values to wildlife. Other important factors include: location relative to other land uses, the quality of habitat on and adjacent to the site, and the uniqueness of the habitat in relation to the project vicinity. The project site has high wildlife value because it meets all of these criteria. The unique soils (e.g., clay lens soil) and varying topography help create a diversity of habitats onsite that are contiguous with open space areas outside of the property boundaries. Mother Miguel Mountain remains relatively undisturbed to the east.

Large mammal movement corridors exist on the project site (primarily in the northern portion) crossing generally through the site leading from Mother Miguel Mountain and Otay Mesa to the Sweetwater Reservoir (see Plate 3 in pocket at the end of Draft EIR 90-02 in Volume 1). Current scientific literature describes areas of open space and their connections as an integral part of the maintenance of biological diversity and population viability. The project site is part of a larger natural open space system that runs from Sweetwater Reservoir to the Jamul Mountains to the east and south to the international border. As a part of this natural, interconnected system, the site acts as an important link in the maintenance of biodiversity and long-term survival of species in the area south of Sweetwater River and north of Otay Ranch. Habitat adjacent to Rancho San Miguel in the Sweetwater Reservoir is considered very important for wildlife. The Sweetwater Reservoir and its adjacent mudflats and upland areas are among the most attractive areas for birds and other forms of wildlife remaining in coastal San Diego County. Everett (1979) recorded 174 species of birds in the area. Some of these are

rare or of very local distribution in southern California. Sweetwater Reservoir is the only known breeding location of the western and Clark's grebes (*Aechmophorus occidentalis occidentalis* and *A. o. clarkii*) in San Diego County and contains the largest breeding populations in southern California. The reservoir represents an important waterfowl wintering area and the surrounding mudflats offer excellent habitat for shorebirds and wading birds.

Portions of the project site have been disturbed by past agricultural practices, thereby reducing their value for wildlife by reducing diversity of vegetation types, microtopography, and plant species. Additionally, portions of the Diegan coastal sage scrub have not recovered from the fire in 1985. A majority of the site, however, remains a significant resource for wildlife. A total of 131 vertebrate species were observed during the studies conducted by PSBS and ERCE.

Amphibians. Four amphibian species were detected during the project surveys (Appendix B in Volume 2). Amphibian use of the project site would focus on water sources and drainages.

Reptiles. Twelve species of reptiles were detected by PSBS biologists during previous surveys (PSBS 1989a). These species are listed in Appendix B of Volume 2. The western whiptail (*Cnemidophorus tigris*) and side-blotched lizard (*Uta stansburiana*) were the most frequently observed lizards. Six fairly common snake species were also observed and are listed in Appendix B.

Birds. A total of 102 species of birds were detected by PSBS and ERCE biologists (see Appendices B and C). Some common resident species of the Diegan coastal sage scrub onsite include: Anna's hummingbird (*Calypte anna*), California quail (*Callipepla californica*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), California gnatcatcher (*Polioptila californica*), and lesser goldfinch (*Carduelis psaltria*).

Thirteen species of raptors were detected flying over the site or foraging onsite. Common raptor species detected include red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*). Golden eagle (*Aquila chrysaetos*) was regularly detected by PSBS and ERCE biologists, and PSBS (1989a) noted two historical nest sites near the site's eastern boundary, one of which is just inside the boundary of this project area, and the other is on the property owned by the Otay Water District several feet away. Both of these sites have been confirmed as historic eagle nest locations (Scott 1991).

Mammals. Fifteen species of mammals were detected on the project site by PSBS biologists during previous surveys (PSBS 1989a). Appendix B of Volume 2 lists species observed during these surveys. Some commonly observed mammals include; desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*).

Eight large mammalian predators occur, or could occur, in the vicinity. The study site is part of a large expanse of natural area which allows species such as mountain lion (*Felis concolor*), bobcat, and gray fox (*Urocyon cinereoargenteus*) to persist in the project area. Bobcat appears relatively common in brushland habitat in San Diego County (Lembeck 1978) and is an inhabitant of the study area. Mountain lions are known to occur regularly in the San Ysidro Mountains and tracks were observed on the site. The study site is probably part of a mountain lion home range due to the population of mule deer inhabiting the site.

Sensitive Resources

Sensitive Habitats. Sensitive habitats are vegetation communities which are considered rare within the region, are listed by the Conservation Element of the General Plan for the County of San Diego (County of San Diego 1980), or support sensitive plants or animals. The sensitive habitats onsite are wetlands (riparian scrub/mulefat association and dry marsh/riparian scrub), Diegan coastal sage scrub, and disturbed coastal prairie. A complete description of these habitats is found in Appendix B of Volume 2. Riparian habitat is considered a sensitive resource by the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS). Riparian habitat is specifically addressed by the CDFG Code Sections 1600-1606 (Streambed Alteration Agreement), and wetlands are also under the jurisdiction of the U.S. Army Corps of Engineers permit process (Reinen 1978). Riparian habitat is considered a valuable but declining resource locally and nationwide. This habitat type covers less than 0.2 percent of San Diego County (Oberbauer 1990).

The wetland habitats (13.1 acres) at Rancho San Miguel and nearby offsite areas are of low to medium quality. Several of the wetland areas were created by past farming activity. Their generally low diversity is due to the lack of long-term water sources and grazing damage to the vegetation and streambeds. However, the ponds and associated channels are important water sources for wildlife due to their placement on otherwise dry property.

Diegan coastal sage scrub (1,922 acres) is considered a sensitive habitat by the County of San Diego, CDFG, and USFWS. Oberbauer (1990) estimated that approximately 70 percent of the original acreage of this habitat in the county has been lost, primarily because of urban expansion along the coast. Additional evidence of the decline of this once common habitat is the decreasing number of plant and animal species associated with it. Very little coastal sage scrub is found in areas designated as permanent natural open space (e.g., Bureau of Land Management, U.S. Forest Service, county parks, and easements) in the county.

Disturbed native grassland (16 acres), located in the eastern non-native grassland area, contains several sensitive plants and supports native perennial grass species. Native grassland habitats are considered sensitive by the County of San Diego and CDFG. Native grassland on the project site has been affected by the invasion of non-native annual grass species and disturbed by the Otay Water District reclaimed waterline and

patrol road. However, much of the habitat components are still intact.

Sensitive Plants. High-interest plants include those listed by the USFWS (1989), CDFG (1990a), and California Native Plant Society (Smith and Berg 1988). The CNPS Listing is sanctioned by the CDFG and essentially serves as its list of "candidate" species for threatened or endangered status. The PSBS survey (1989a) of Rancho San Miguel revealed the presence of thirteen plant taxa considered rare and/or endangered by local, state, or federal agencies. The ERCE surveys (1990) revealed the presence of four additional sensitive species onsite and additional populations of some of the sensitive species detected by PSBS (1989a). SEB surveys found one additional sensitive species in 1991. A complete description of the occurring and potentially occurring sensitive plant species is found in Appendix B of Volume 2. A list of sensitive plant species detected onsite or known from the region is provided in Table 3.3-1. Plate 2 in the pocket of Draft EIR 90-02 of Volume 1 shows locations of sensitive plant species found during the surveys. See Table 3.3-2 for an explanation of the CNPS Codes, Candidate Categories, and USFWS designations. A brief summary of the status of the sensitive plant species found on the site follows.

Hemizonia conjugens, Otay tarweed

USFWS: Candidate (Category 2), Endangered, CNPS rating: List 1B, 3-3-2

This late spring-blooming (May-July) annual herb occurs only in southern San Diego County and northwestern Baja California. Within the County, Otay tarweed is found in scattered localities on clay soils and in swales from the vicinity of Sweetwater Reservoir south to the border. It is apparently equally uncommon in Mexico. The primary threat to this species is development of its habitat.

Table 3.3-1
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Acanthamintha ilicifolia</i> San Diego Thorn mint	C2	CE	List 1B R-E-D Code 2-3-2	Requires clay soil. May occur in clay lens area onsite.
<i>Adolphia californica</i> California adolphia	—	—	List 2 R-E-D Code 1-2-1	Detected.
<i>Ambrosia chenopodiifolia</i> San Diego bur sage	—	—	List 2 R-E-D Code 2-2-1	Typically found on mesas and open slopes in the southern coastal area. Not expected onsite.
<i>Ambrosia pumila</i> San Diego ambrosia	C2	—	List 1B R-E-D Code 3-2-2	Typically found in valleys and disturbed areas in CSS and foothill grassland habitats. May occur onsite.
<i>Arctostaphylos otayensis</i> Otay Manzanita	C2	—	List 1B R-E-D Code 3-2-2	Known from San Miguel Mountain area. Typically found in chaparral above 1100 m. Unlikely to occur onsite.
<i>Artemisia palmeri</i> San Diego sagewort	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Astragalus deanei</i> Dean's milk vetch	C2	—	List 1B R-E-D Code 3-2-3	Typically found in chaparral habitat and open areas. May occur onsite.
<i>Calamintha chandleri</i> San Miguel Savory	C2	—	List 4 R-E-D Code 1-1-2	Associated with shaded oak woodlands. Unlikely, although may occur in north-facing chaparral habitat onsite.
<i>Calochortus dunnii</i> Dunn's mariposa lily	C2	CR	List 1B R-E-D Code 2-2-2	Known from San Miguel Mountain area above 1000 m. Unlikely, although may occur in chaparral habitat onsite.

Table 3.3-1 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Chamaebatia australis</i> Southern mountain misery	—	—	List 4 R-E-D Code 1-1-1	Known from San Miguel Mountain area. Unlikely, although may occur in chaparral habitat onsite.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> Summer holly	—	—	List 1B R-E-D Code 2-2-2	May occur in chaparral habitat onsite.
<i>Cupressus guadalepensius</i> ssp. <i>forbesii</i> Tecate cypress	—	—	List 1B R-E-D Code 2-2-2	May occur in chaparral habitat onsite, although not expected.
<i>Dichondra occidentalis</i> Western dichondra	C3	—	List 4 R-E-D Code 1-2-1	Detected.
<i>Dudleya variegata</i> Variegated dudleya	C2	—	List 4 R-E-D Code 1-2-2	Detected.
<i>Ericameria palmeri</i> ssp. <i>palmeri</i> Palmer's ericameria	—	—	List 2 R-E-D Code 2-2-1	May occur in CSS habitat onsite, although not expected.
<i>Eryngium aristulatum</i> ssp. <i>parishii</i> San Diego button celery	C1	CE	List 1B R-E-D Code 1-3-2	Typically found in vernal pools. Not expected onsite.
<i>Ferocactus viridescens</i> San Diego barrel cactus	C2	—	List 2 R-E-D Code 1-3-1	Detected.
<i>Fremontodendron mexicanum</i> Mexican flannelbush	C2	CR	List 1B R-E-D Code 3-2-2	Typically found in shaded canyons. May occur in chaparral habitat onsite, but not expected.
<i>Fritillaria biflora</i> California chocolate lily	—	—	Considered, but too common	Known from San Miguel Mountain area. May occur in clay soil area onsite.
<i>Harpagonella palmeri</i> var. <i>palmeri</i> Palmer's grapplinghook	—	—	List 2 R-E-D Code 1-2-1	Detected.

Table 3.3-1 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			Likelihood of Occurrence/Notes
	Federal	State	CNPS	
<i>Hemizonia conjugens</i> Otay tarplant	C2	CE	List 1B R-E-D Code 3-3-2	Detected.
<i>Hemizonia floribunda</i> Tecate tarplant	C2	—	List 1B R-E-D Code 2-2-2	Typically found in channels in chaparral habitat. Not expected onsite
<i>Iva hayesiana</i> San Diego marsh elder	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Lepechinia ganderi</i> Gander's pitcher sage	C2	—	List 1B R-E-D Code 3-1-2	Known from San Miguel Mountain. May occur in chaparral onsite.
<i>Muilla clevelandii</i> San Diego goldenstar	C2	—	List 1B R-E-D Code 2-2-2	Detected.
<i>Myosurus minimus</i> var. <i>apus</i> Little mousetail	C2	—	List 3 R-E-D Code 2-3-2	Typically found in vernal pools. Not expected onsite.
<i>Navarretia fossalis</i> Prostrate navarretia	C2	—	List 1B R-E-D Code 2-3-2	Typically found in vernal pools. Not expected onsite.
<i>Ophioglossum lusitanicum</i> ssp. <i>californicum</i> California adder's-tongue	C3	—	List 4 R-E-D Code 1-2-2	Typically on grass slopes and around vernal pools. Unlikely, but may occur onsite.
<i>Opuntia parryi</i> var. <i>serpentina</i> Snake cholla	C2	—	List 1B R-E-D Code 3-3-2	Typically found in chaparral and CSS habitat, although not expected onsite.
<i>Ribes canthariforme</i> Moreno currant	C2	—	List 1B R-E-D Code 3-1-3	Typically in shade of large rocks in chaparral habitat. Unlikely, but may occur onsite.

Table 3.3-1 (Continued)
SENSITIVE PLANT SPECIES DETECTED ONSITE
OR KNOWN FROM THE REGIONAL AREA

Species	Status ¹			
	Federal	State	CNPS	Likelihood of Occurrence/Notes
<i>Salvia munzii</i> Munz's sage	—	—	List 2 R-E-D Code 2-2-1	Detected.
<i>Selaginella cinerascens</i> Ashy spike-moss	—	—	List 4 R-E-D Code 1-2-1	Detected.
<i>Solanum tenuilobatum</i> Narrow-leaved nightshade	C2	—	List 1B R-E-D Code 3-1-3	May occur in chaparral habitat onsite, although not expected.
<i>Stipa diegoensis</i> San Diego County needle grass	—	—	List 2 R-E-D Code 3-1-1	Detected.
<i>Streptanthus bennardianus</i> Laguna Mtns. jewel flower	C3	—	List 1B R-E-D Code 2-1-3	Not expected onsite due to inappropriate habitat.
<i>Viguiera laciniata</i> San Diego County viguiera	—	—	List 2 R-E-D Code 1-2-1	Detected.

¹See Table 3.3-2 for explanation of codes

Table 3.3-2

SENSITIVITY CODES FOR TABLE 3.3-1

FEDERAL LISTED AND CANDIDATE SPECIES

FE	=	Federally listed, endangered
FT	=	Federally listed, threatened
C1	=	Enough data are on file to support the federal listing
C2	=	Threat and/or distribution data are insufficient to support federal listing
C3a	=	Extinct
C3c	=	Too widespread and/or not threatened

STATE LISTED SPECIES

CE	=	State listed, endangered
CT	=	State listed, threatened
CR	=	State listed, rare
CP	=	California Fully Protected, Fish and Game Code

CALIFORNIA NATIVE PLANT SOCIETY

Lists

R-E-D Codes

1A	=	Species presume extinct	<u>R (Rarity)</u>
			1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
1B	=	Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.	2 = Occurrence confined to several populations or to one extended population.
2	=	Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.	3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.
3	=	Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.	<u>E (Endangerment)</u>
			1 = Not endangered
			2 = Endangered in a portion of its range
			3 = Endangered throughout its range
4	=	A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.	<u>D (Distribution)</u>
			1 = More or less widespread outside California
			2 = Rare outside California
			3 = Endemic to California

Approximately 200,000 individuals of Otay tarweed were detected during the SEB surveys. The diagnostic characters used for the identification of this species included: the number of ray and disk flowers and the fertility/sterility status of the disk flowers. In addition, specimens collected from the Rancho Miguel site were compared with specimens at the Museum of Natural History Herbarium in San Diego. Specimens collected were verified as *Hemizonia conjugens* by Dr. Geoffrey Levin, Curator, Herbarium, Museum of Natural History.

Approximately 24,000 individuals of Otay tarweed were detected in the southwestern part of the northern portion of the site. There were five populations of approximately 1,000 individuals each with the largest population composed of approximately 10,000 individuals.

Approximately 175,000 individuals of Otay tarweed were detected throughout the western and central parts of the southern portion of the site. In the southern portion several extremely significant and large populations were detected. There were 30 populations of at least 1,000 individuals each in the southern portion, 6 of these populations containing at least 10,000 individuals each. A population of approximately 20,000 individuals was detected in Horseshoe Bend; another population of approximately 50,000 individuals was detected adjacent to the SDG&E substation on Proctor Valley Road; two populations of 10,000 individuals each on the mesas in the central part of the southern portion and another population of approximately 10,000 individuals along the southern boundary of the central part of the southern portion adjacent to Proctor Valley Road.

**Ferocactus viridescens*, Coast Barrel Cactus

*USFWS: Candidate (Category 2), CNPS rating: List 2, 1-3-1

Coastal barrel cactus is extremely abundant on south-facing exposures of the site (Plate 2 in Volume 1). Two of the more impressive populations, consisting of approximately 1,240 and 1,400 plants, are located in the northern-central and southeastern portions of the site. A total of approximately 8,000 individuals occur onsite. The plant is restricted to the dry coastal foothills within coastal sage scrub and grasslands, extending from the San Luis Rey River in Oceanside to just below Border Field Park along the U.S. international border in the U.S. In addition, the species also occurs in the foothills of the Sierra Juarez in Baja, California. A majority of the remaining populations in the U.S. occur in the South County region. Populations have been seriously decreased by habitat loss and collecting.

**Dudleya variegata*, Variegated Dudleya

*USFWS: Candidate (Category 2), CNPS rating: List 4, 1-2-2

The southern San Diego County region remains one of this species' principle distributional locations. This bulbous, ephemeral succulent was found in the earlier survey (PSBS 1989) in the disturbed native grassland.

**Muilla clevelandii*, Cleveland's Golden Star

*USFWS: Candidate (Category 2), CNPS rating: List 1, 2-2-2

This bulbous plant occurs in abundance in the disturbed native grassland. This plant is very rare due to coastal development, and this locale is considered an important site within the plant's known distributional range. Cleveland's golden star is restricted to southwestern San Diego County and Baja California.

**Harpagonella palmeri* var. *palmeri*, Palmer's Grappling Hook

*CNPS rating: List 2, 1-2-1

ERCE (1991) detected a major population of approximately 10,000 plants within the central part of the southern portion of the proposed development (Plate 2) in Volume 1. This is considered a large population for the San Diego County region. In addition, several smaller populations were found in the southern portion and in the southern part of the northern portion by ERCE and SEB. Palmer's grappling hook is restricted to heavier soils in San Diego, Orange, and Riverside Counties. The plant is restricted to clay soils located on dry slopes and mesas. This sensitive plant ranges from Los Angeles to San Diego County just above the U.S. international border in the Otay Mesa area in the U.S. In addition, the plant occurs to midway down the Baja California Peninsula, and is common on Santa Catalina Island. The population onsite is one of the largest known populations in the County. Populations have been decreased by agriculture and urban development.

**Adolphia californica*, California Adolphia

*CNPS rating: List 2, 1-2-1

A population consisting of several hundred plants of this green-stemmed shrub was discovered on the knoll south of the Miguel Substation. Additional populations are located in the northern, northwestern, and southern portions of the site (Plate 2 in Volume 1). This species occurs from Oceanside to the international border in heavier soils. The plant is restricted to the dry coastal foothills within coastal sage scrub and grasslands, extending from Morro Hill in Oceanside to Soledad and Chollas Valley, and southward well into Baja, California. This species is generally restricted to heavy soils, with the largest concentrations occurring in the Carlsbad area and southern San Diego County. The population onsite is locally but not regionally significant. Populations have been seriously decreased by habitat loss.

**Artemisia palmeri*, Palmer Sagebrush, San Diego Sagewort

*CNPS rating: List 2, 2-2-1

San Diego sagewort is scattered throughout San Diego County. A single population of this sagewort was located in the earlier survey (PSBS 1989a) in a rocky outcrop on the western flank of San Miguel Mountain, just inside the Rancho San Miguel boundaries (Plate 2 in Volume 1).

**Iva hayesiana*, San Diego-Marsh Elder, San Diego Poverty Weed
*CNPS: List 2, 2-2-1

This stream-side shrub is frequent in drainages on the site, especially in Wild Man's Canyon in the north-central part of the southern portion of the site. Additional populations were detected in wetlands in the northern and southern portions of the site (Plate 2 in Volume 1). The plant is restricted to alkaline wetland habitats (ephemeral streams, marshes, etc.) along the coastal and inland valleys from Carlsbad to just below the U.S. international border in the U.S. In addition, the plant occurs well into Baja, California. This species is still fairly abundant throughout its range. The population onsite is locally but not regionally significant. Populations have been decreased by agriculture and urban development.

**Salvia munzii*, Munz's Sage
*CNPS rating: List 2, 2-2-1

Munz's sage was observed on the western flank of San Miguel Mountain as well as near the dry reservoir along Proctor Valley Road. ERCE identified additional populations in the northern and southern portions of the site (Plate 2 in Volume 1). This species reaches its northern distributional limit on Dictionary Hill near the site.

**Stipa diegoensis*, San Diego Needle Grass
*CNPS rating: List 2, 3-1-1

A small population of this species was detected by ERCE to the west of Mother Miguel Mountain in the northern portion of the site. This perennial bunchgrass is restricted to several locations in southern San Diego County.

**Viguiera laciniata*, San Diego Sunflower
*CNPS rating: List 2, 1-2-1

This species is abundant on the project site, particularly in the northern and southern portions on steeper, dryer slopes (Plate 2 in Volume 1). It is a common component of drier slopes dominated by sage scrub in the project area, south to the international border.

**Selaginella cinerascens*, Mesa Clubmoss
*CNPS rating: List 4, 1-2-1

This species commonly occurs in openings within the sage scrub habitat throughout the site, and occurs throughout much of San Diego County.

**Dichondra occidentalis*, Western Dichondra, Pony Foot
*USFWS: Candidate (Category 3c), CNPS: List 4, 1-2-1

ERCE detected a single population of western dichondra on Mother Miguel Mountain in the eastern portion of the site. This species may be scattered throughout other portions of the site, but is easily overlooked. Western dichondra occurs in coastal San Diego and Orange Counties.

**Juncus acutus* var. *sphaerocarpus*, Spiny Rush

*CNPS rating: List 4, 1-2-2

Spiny rush is a relatively common wetland species scattered throughout San Diego County. Approximately 200 individuals of spiny rush were detected within the project site along a small tributary in the southern portion of the site (Plate 2 in Volume 1), and another 200 individuals in the northern portion. Scattered individuals were found in drainages in the northern portion. Restricted to alkaline wetland habitats (ephemeral streams, marshes, etc.) along the coastal inland valleys, foothills, and Colorado desert from San Luis Obispo to just below the U.S. international border in the U.S. The species occurs south to northern Baja, California. This species is still fairly abundant throughout its range.

Several additional sensitive plants are known to occur in the region (Smith and Berg 1988), but were not detected onsite. These species are listed in Table 1 in Appendix B of Volume 2. Due to the proximity of Rancho San Miguel to San Miguel Mountain and adjacent coastal mesas, the presence of several other rare and/or endangered plant taxa on the site is possible. Moreover, due to the sub-normal rainfall of recent years, other rare or endangered taxa may be expected on the site, especially those of an annual or perennial herbaceous nature.

Other sensitive plants are known to occur in the area, but are not expected on the Rancho San Miguel site due to inappropriate habitat conditions (Beauchamp 1986; Smith and Berg 1988). These species are described in Appendix B of Volume 2.

Sensitive Animals

Sensitive animal species are those listed by the USFWS (1989), CDFG (1990b), Remsen (1978), Williams (1986), Tate (1986), and Everett (1979). One federal and state listed endangered species, the peregrine falcon, was observed onsite. In addition, there were three sensitive reptiles and 17 bird species detected on the project site. Plate 3 shows the localities of some of these sensitive species in Volume 1. Table 3.3-3 lists species observed and potentially occurring on the project site. See Table 3.3-4 for an explanation of the sensitivity status codes. A complete description of the status, distribution, and presence of occurring and potentially occurring species is found in Appendix B of Volume 2. The following section provides a brief summary of the status of sensitive wildlife species found or potentially occurring onsite.

Invertebrates. No sensitive insects or other invertebrates were observed on the project site.

- **Euphydryas editha quino*, Quino Checkerspot Butterfly
- *USFWS: Candidate (Category 2), Petitioned for Listing

Quino checkerspot is not a common insect, especially in San Diego County where it is considered almost extinct (Emmel and Emmel 1973, Braun 1991). This species is known from the project vicinity (Faulkner and Braun no date). Quino checkerspot is restricted to its host plant, plantain (*Plantago erecta*). This plant does occur onsite. No individuals of this species were observed during any of the surveys, but no directed searches by a qualified biologist were made on the project site. The Quino checkerspot could be expected onsite.

- **Lycaena hermes*, Hermes Copper Butterfly
- *USFWS: Candidate (Category 2)

This species has a very restricted range, extending from northern Baja approximately 100 miles south of the border to Fallbrook in San Diego County approximately 50 miles north of the border. It is closely restricted to its host plant, buckthorn. No individuals of this species were observed during any of the surveys, but no directed searches by a qualified biologist were made on the project site. This species could be expected onsite.

Amphibians. No sensitive amphibian species were observed on the project site.

- **Rana aurora draytoni*, California Red-legged Frog
- *USFWS: Candidate (Category 2), State: Species of Special Concern

The only sensitive amphibian known from the general vicinity of the project is the California red-legged frog, considered endangered by the San Diego Herpetological Society. The California red-legged frog is not expected to occur onsite because of lack of habitat.

Table 3.3-3
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			
	Federal	State	Other	Likelihood of Occurring Onsite
INSECTS				
<i>Lycaena hermes</i> Hermes Copper Butterfly	C2	—	—	High: Status unknown.
<i>Euphydryas editha quino</i> Quino Checkerspot Butterfly	C2	—	—	High: Status unknown.
AMPHIBIANS				
<i>Rana aurora draytoni</i> California red-legged frog	C2	SC	SDHS	Not expected. Appropriate habitat does not occur onsite.
<i>Spea hammondi</i> Western Spadefoot				Detected.
REPTILES				
<i>Cnemidophorus hyperythrus beldingi</i> Orange-throated Whiptail	C2	SC	SDHS	Detected.
<i>Phrynosoma coronatum blainvillei</i> San Diego Horned Lizard	C2	SC	SDHS	Detected.
<i>Thamnophis couchi hammondi</i> Two-striped Garter Snake	—	—	SDHS	Detected.
<i>Anniella pulchra pulchra</i> Silvery legless lizard	—	—	SDHS	Not detected. Appropriate habitat exists.
BIRDS				
<i>Elanus caeruleus</i> Black-shouldered Kite	—	CFP	—	Occasional nonbreeding visitor.
<i>Haliaeetus leucocephalus</i> Bald Eagle	E	E, CFP	—	Low: Nonbreeding winter visitor only.
<i>Accipiter cooperi</i> Cooper's Hawk	—	SC	BL	Forages onsite, nesting nearby along Sweetwater River.

Table 3.3-3 (Continued)
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			Likelihood of Occurring Onsite
	Federal	State	Other	
<i>Accipiter striatus</i> Sharp-shinned Hawk	—	SC	BL	Detected.
<i>Buteo swainsoni</i> Swainson's Hawk	C2	T	EVE	Not detected; expected only as a very rare migrant.
<i>Buteo regalis</i> Ferruginous Hawk	C2	—	BL	Not detected; expected as a very rare winter visitor
<i>Aquila chrysaetos</i> Golden Eagle	—	SC	—	One breeding pair.
<i>Circus cyaneus</i> Northern Harrier	—	SC	BL	Occasional; possibly one breeding pair.
<i>Falco mexicanus</i> Prairie Falcon	—	SC	—	Occasional nonbreeding visitor.
<i>Falco peregrinus</i> Peregrine Falcon	E	E	—	One observation of a presumed transient.
<i>Cathartes aura</i> Turkey Vulture	—	—	EVE	Regular but apparently not nesting. Nested at least for- merly on San Miguel Mt.
<i>Athene cunicularia</i> Burrowing Owl	—	SC	EVE	Occasional visitor, apparently not breeding
<i>Thryomanes bewickii</i> Bewick's Wren	—	—	BL	Common.
<i>Campylorhynchus brunneicapillum</i> Cactus Wren	—	—	EVE	Eight singing birds detected by ERC; 12 territories reported by PSBS.
<i>Lanius ludovicianus</i> Loggerhead Shrike	—	—	BL	Present in small numbers.
<i>Polioptila caerulea</i> Blue-gray Gnatcatcher	—	—	EVE	Detected apparently as a migrant only.
<i>Polioptila californica</i> California Gnatcatcher	C2	SC	—	63 pairs detected by ERCE; 100 pairs reported by PSBS.

Table 3.3-3 (Continued)
SENSITIVE ANIMAL SPECIES KNOWN
FROM THE PROJECT VICINITY

Species	Status ¹			Likelihood of Occurring Onsite
	Federal	State	Other	
<i>Ammodramus savannarum</i> Grasshopper Sparrow	—	—	EVE, BL	Detected.
<i>Aimophila ruficeps</i> Rufous-crowned Sparrow	—	—	EVE	Detected.
<i>Amphispiza belli belli</i> Sage Sparrow	—	—	BL	Detected.
<i>Geococcy californianus</i> Greater roadrunner	—	—	BL	Detected.
MAMMALS				
<i>Taxidea taxus</i> American Badger	—	SC	—	High: Appropriate habitat occurs.
<i>Bassariscus astutus</i> Ringtail	—	CFP	—	High: Appropriate habitat occurs.
<i>Macrotus californicus</i> California leaf-nosed bat	C2	SC	—	Low
<i>Plecotus townsendii pallescens</i> Pale big-eared bat	—	SC	—	Low
<i>Eumops perotis californicus</i> California mastiff bat	C2	SC	—	Low

¹ For an explanation of codes, see Table 3.3-4.

Table 3.3-4

SENSITIVITY CODES FOR TABLE 3.3-3

FEDERAL LISTED AND CANDIDATE SPECIES

E	=	Federally listed, endangered
T	=	Federally listed, threatened
C1	=	Enough data are on file to support the federal listing
C2	=	Threat and/or distribution data are insufficient to support a formal declaration
C3a	=	Extinct
C3c	=	Too widespread and/or not threatened

STATE LISTED SPECIES

E	=	State listed, endangered
T	=	State listed, threatened
CFP	=	California Fully Protected (CDFG)
SC	=	Species of Special Concern (Remsen or Williams)

OTHER

SDHS	=	Considered threatened by San Diego Herpetological Society
BL	=	Audubon Society Blue List (Tate 1986), a listing of bird species considered sensitive because their populations have been decreasing and they have suffered habitat loss
EVE	=	Everett (1979)

Reptiles. Three sensitive reptiles were observed during the surveys (PSBS 1989a).

**Phrynosoma coronatum blainvillei*, San Diego Horned Lizard

*USFWS: Candidate (Category 2), CDFG: Species of Special Concern

The San Diego horned lizard is considered endangered by the San Diego Herpetological Society (SDHS 1980) because of habitat destruction and collecting for the pet trade. San Diego horned lizards were detected by both PSBS and ERCE biologists, and are expected to inhabit much of the undisturbed flatter portions of the site.

**Cnemidophorus hyperythrus*, Orange-throated Whiptail

*USFWS: Candidate (Category 2), CDFG: Species of Special Concern

The orange-throated whiptail is considered threatened by the San Diego Herpetological Society (SDHS 1980). Orange-throated whiptails were detected by both PSBS and ERCE biologists although in very low numbers. This species could occur throughout scrub habitats onsite, although it would most likely be found on the flatter portions of the site.

**Thamnophis couchi hammondi*, Two-striped Garter Snake

The two-striped garter snake, considered endangered by the San Diego Herpetological Society (SDHS 1980), occurs in aquatic habitats. One two-striped garter snake was detected in an abandoned well by PSBS biologists. Its presence on the site would be limited to the wetland habitat areas.

One other sensitive reptile, the silvery legless lizard (*Anniella pulchra pulchra*), could occur on the site in sandy soils along drainages. A further description of its potential to occur onsite is found in Appendix B in Volume 2.

Birds

Seventeen sensitive bird species were observed during the two field studies by PSBS and ERCE. Species observed during the surveys, along with species potentially occurring on the site, are listed in Table 3.3-3. Plate 3, which is located in the pocket of Draft EIR 90-02 in Volume 1, shows the localities of sightings of California gnatcatcher, cactus wren, grasshopper sparrow, Cooper's hawk, and raptor nest sites. A detailed description of the biology, status, distribution, and potential for habitat utilization on the site is provided in Appendix B in Volume 2.

**Falco peregrinus anatum*, American Peregrine Falcon

*Federal: Endangered, State: Endangered

The peregrine falcon's endangered status is due primarily to pesticide contamination resulting in eggshell thinning. Until 1950, a few pairs nested in San Diego

County. The species still occurs in southern California as a rare visitor, primarily along the coast where it feeds on water birds. A single pair recolonized San Diego County in 1989, nesting on the Coronado Bridge. The bird seen at Rancho San Miguel by PSBS (1989a) was undoubtedly a migrant. Peregrine falcons probably occur occasionally at Sweetwater Reservoir, attracted by the abundant waterfowl and shorebirds, but the dry uplands of Rancho San Miguel are not their preferred habitat.

**Poliophtila californica*, California Gnatcatcher

*Federal: Category 2 Species, State: Species of Special Concern

The California gnatcatcher is currently a Federal Category 2 species and a State Species of Special Concern. On September 17, 1991, the San Diego Biodiversity Project and Palomar Audubon Society filed a petition with the USFWS to list the California gnatcatcher as endangered under the Federal Endangered Species Act of 1973. The USFWS has up to one year to make a final determination on the status of this species. Additionally, the Natural Resources Defense Council petitioned the CDFG to consider the status of the gnatcatcher under the State Endangered Species Act. If the Fish and Game Commission considers listing to be warranted, then the gnatcatcher will become a candidate species and a one-year review period would begin. During the August 1991 Commission hearings, the Commission did not find that the species warranted protection at that time.

PSBS reported 92 pairs of California gnatcatchers on the Rancho San Miguel property, 27 pairs just offsite and 25 solitary males (PSBS 1989b). Subsequent surveys by ERCE biologists in 1990 and PSBS spring surveys in 1991 detected 69 pairs onsite and 18 pairs just offsite (Plate 3 of Volume 1). Fifty-five pairs onsite and 14 pairs just offsite were observed in the northern portion, and 14 pairs onsite with 4 pairs offsite were observed in the southern portion. Surveys conducted for gnatcatchers at different times of the year and at different levels of intensity may explain the discrepancy between the results of the studies.

Areas utilized by gnatcatchers primarily in late summer and early fall were considered feeding/dispersal gnatcatcher habitat. Gnatcatchers observed in the early spring were considered breeding pairs. For purposes of determining breeding habitat use areas, it was assumed that locations of birds during the breeding season represented the center of that particular bird's territory. Breeding habitat was then assumed to include the area within a 20-acre circle, using the gnatcatcher sighting as the center of the circle. Breeding habitat consists of 837 acres. Habitat not used by the species during the surveys, but which appeared appropriate, was considered potential breeding habitat and amounts to 179 acres. These habitat are depicted in Plate 3 of Volume 1.

**Campylorhynchus brunneicapillum*, Cactus Wren

Recent taxonomic work indicates that the coastal population of the cactus wren in San Diego County may be a separate subspecies (Rea & Weaver 1991). However, this proposed change in the cactus wren taxonomy has not received official sanction.

The coastal population of cactus wren has been reduced to approximately 400 pairs in the U.S. and 200 pairs in San Diego County (Weaver 1988). Nearly all known colonies of cactus wren are threatened by proposed developments. If the coastal population is a distinct subspecies, then the San Diego cactus wren (*C. diegensis*) is the most sensitive wildlife species on the site. PSBS (1989a), and ERCE results were combined and are shown in Plate 3 of Volume 1.

**Elanus caeruleus*, Black-shouldered Kite

*State: Fully Protected

The black-shouldered kite was reported by PSBS (1989a) biologists as an "occasional" species at Rancho San Miguel. There are no trees suitable for kite nesting here, but the species very likely nests a short distance to the north in the riparian woodland along the Sweetwater River and uses Rancho San Miguel to some degree for foraging.

**Accipiter cooperi*, Cooper's Hawk

*State: Species of Special Concern

As with the black-shouldered kite, PSBS (1989a) biologists noted Cooper's hawk as "occasional" at Rancho San Miguel. Cooper's hawks are known to nest in riparian woodland on the Sweetwater River (Unitt 1984, WESTEC 1987) and would use the essentially treeless habitat of Rancho San Miguel for foraging only. The species would be most frequent at Rancho San Miguel in winter, when migrants from the north augment the local breeding population.

**Accipiter striatus*, Sharp-shinned Hawk

*State: Species of Special Concern

The Sharp-shinned hawk is considered a third priority species of special concern by the CDFG because of declines in its breeding range (Remsen 1978). This species occurs in San Diego County as an uncommon migrant and winter visitor only. It was observed twice by PSBS biologists during winter 1991 and was observed flying over the northern portion of the property. Sharp-shinned hawks are expected to make limited seasonal use of habitat on the site.

**Aquila chrysaetos*, Golden Eagle

*State: Species of Special Concern

The golden eagle is protected under the Bald Eagle Protection Act, and is considered a third-priority species of special concern (Remsen 1978, CDFG 1990b). One pair was noted regularly at Rancho San Miguel by both PSBS and ERCE biologists, and PSBS (1989a) noted two historic nest sites near the property's eastern boundary in tall eucalyptus trees, one within the property and another just outside (Plate 3 in Volume 1). The pair observed onsite presumably maintains additional alternate nest sites on cliffs on San Miguel Mountain. In addition, ERCE biologists noted an immature golden eagle

foraging over the northwestern part of Rancho San Miguel. The extensive foraging habitat afforded by the open space of Rancho San Miguel and other large south county parcels is important to these resident eagles.

**Circus cyaneus hudsonius*, Northern Harrier

*State: Species of Special Concern

The northern harrier is considered to be declining in San Diego by Everett (1979), and is on the Audubon Society's Blue List (Tate 1986). The Blue List is a listing of bird species considered sensitive because their populations have been decreasing and they have suffered habitat loss. This species is known to nest just east of Rancho San Miguel in Proctor Valley (Unitt 1984), and PSBS (1989a) reported seeing a pair during the breeding season. ERCE's observation of a male on 6 April 1990 also suggests that harriers may breed in Rancho San Miguel in very small numbers (Plate 3). The northern harrier places its nest on the ground in grassland or open sage scrub.

**Falco mexicanus*, Prairie Falcon

*State: Species of Special Concern

The prairie falcon, a third-priority species of special concern (Remsen 1978), was reported by PSBS (1989a) as an "occasional" species at Rancho San Miguel. These birds were presumably winter visitors, as the prairie falcon is not known to nest within 20 miles of the site.

**Athene cunicularia*, Burrowing Owl

*State: Species of Special Concern

PSBS (1989a) reported seeing several burrowing owls on the project site, and the habitat at lower site elevations is suitable for them. ERCE biologists, however, did not find either the owls or ground squirrel colonies that would offer them burrows. The burrowing owls noted by PSBS may have been migrants or winter visitors. They could also have been residents that were extirpated by recent agricultural activity eliminating ground squirrel burrows. The nearest known recently active colony is at Lower Otay Lake (Unitt 1984).

**Poliophtila caerulea amoenissima*, Blue-gray Gnatcatcher

The blue-gray gnatcatcher breeds sparsely in montane chaparral and desert riparian areas in San Diego County, where it is declining (Everett 1979). PSBS (1989b) did not report the blue-gray gnatcatcher, but ERCE biologists saw several in the northwestern portion of Rancho San Miguel on 23 March 1990. Evidently these were all migrants because the species was not encountered on later visits. The locality nearest Rancho San Miguel where the blue-gray gnatcatcher is known to have nested recently is along the Sweetwater River about 10 miles to the northeast.

**Cathartes aura*, Turkey Vulture

The turkey vulture has declined seriously in San Diego County (Everett 1979, Unitt 1984). PSBS (1989a) biologists saw them soaring frequently over Rancho San Miguel during the winter. The species formerly nested on San Miguel Mountain (Unitt 1984), but ERCE biologists did not see it at Rancho San Miguel in March and April 1990, the season when it would normally have been nesting.

**Lanius ludovicianus*, Loggerhead Shrike

The loggerhead shrike is on the Audubon Society's Blue List (Tate 1986), but is a fairly common breeding species in San Diego County. Both PSBS (1989a) and ERCE biologists noticed shrikes regularly in small numbers at Rancho San Miguel. The species is known to nest nearby along the Sweetwater River, and some undoubtedly nest at Rancho San Miguel.

**Ammodramus savannarum*, Grasshopper Sparrow

The grasshopper sparrow is a declining species that has no special regulatory status, but that has been eliminated from much of its range in San Diego County and is considered sensitive on the local level (Everett 1979). PSBS (1989a) plotted sightings of 13 grasshopper sparrows on Rancho San Miguel and in adjacent grasslands of the Sweetwater Reservoir property located within 10 meters of the site. ERCE located six birds, three of which were in areas where PSBS had not reported them. The areas where these birds were observed are mapped as grasshopper sparrow habitat in Plate 3 of Volume 1 and represent habitat used by this species.

**Aimophila ruficeps*, Rufous-crowned Sparrow

The rufous-crowned sparrow is considered sensitive by local biologists. Much of Rancho San Miguel is covered with open scrub ideal for this species, and both PSBS (1989a) and ERCE found this species to be common there. All undisturbed sections of open sage scrub habitat were occupied by this species. The population is estimated at several dozen pairs.

Amphispiza belli, Sage sparrow

Federal: potential Candidate (Category 2)

The coastal subspecies of the sage sparrow is currently being considered as a Category 2 candidate species by the USFWS. A determination of its status will be completed this fall or winter. This subspecies is found on coastal slopes and interior foothills (Dunn and Barrett 1980). It occurs in young chamise chaparral, dry coastal sage scrub with cactus, and in the ecotone between chamise chaparral and coastal sage scrub.

**Geococcyx californianus*, Greater Roadrunner

The greater roadrunner is on the Audubon Society's Blue List (Tate 1986). The roadrunner is considered a common species at Rancho San Miguel because ERCE biologists noted one or two individuals on every visit.

Five sensitive species not detected during any of the surveys have a limited potential to occur on the site. One of these, the bald eagle (*Haliaeetus leucocephalus*), is a federal and state listed endangered species. Another is the Swainson's hawk (*Buteo swainsoni*), a state listed endangered species. Both species would only utilize the site for winter foraging on an infrequent basis. A list of these sensitive species is provided in Table 3.3-3.

Mammals. No sensitive mammalian species were observed during any of the surveys. Table 3.3-3 lists sensitive mammals that could occur on the project site and Appendix B of Volume 2 describes these species and their potential to occur onsite.

Impacts

Development of the Rancho San Miguel property as currently proposed, including roadways, will have a significant adverse impact on many individual biological resources, as well as the rich biodiversity of the area. It is assumed that all native vegetation and sensitive resources within the lot limits will be impacted. For purposes of this impact analysis, it is assumed that impacts resulting from fuel management practices will be restricted to within the lot lines.

Biological resources on a site can be grouped into two areas: specific identifiable resources such as individual species and distinct features; and less tangible attributes such as wildlife habitat, biodiversity, and portions of a larger open space system. For each resource, a discussion follows describing its relationship to local, regional, and range-wide occurrences.

The Rancho San Miguel site supports one of the richest and most diverse assemblages of unique and sensitive biological resources in southern California. Thirteen sensitive plant species and twenty sensitive animal species are known to occur on the project site. Additionally, the site is potentially the single largest concentration of California gnatcatchers in southern California, and may support the largest known population of Otay tarweed in San Diego County. Regionally significant populations of coast barrel cactus and San Diego cactus wren are also present onsite. Individually, many of the 33 sensitive species found on the site would be considered significant resources. The high diversity and large population sizes of these resources compounds the significance of the site for biological resources.

The location of the site is also important in that it lies within a larger block of contiguous open space to the north, east and south, and is adjacent to one of the largest populations of the federally endangered least Bell's vireo, which occurs along the upper

reaches of the Sweetwater Reservoir. The northern portion of the project is contiguous with an existing gnatcatcher population occurring throughout the Sweetwater River Valley to just above Singing Hills Golf Course that likely exceeds 150 pair. This could represent as much as 10 percent of the U.S. population of gnatcatchers. The northern portion of the site serves as a major movement corridor between the Otay Mesa area to the south and the Sweetwater Reservoir.

As noted above, Rancho San Miguel is part of a larger contiguous block of primarily native and agricultural lands continuing from the Sweetwater Reservoir south to the international border, and eastward along the Sweetwater River. This region supports one of the largest contiguous blocks of native vegetation, especially coastal sage scrub, remaining in San Diego County, and includes a high diversity and density of sensitive plant and animal species. Additionally, this region likely supports the largest contiguous gnatcatcher population remaining in the county.

The properties located immediately adjacent to Rancho San Miguel include the Sweetwater Reservoir and open space associated with Rancho San Diego to the north, undeveloped lands and open space for several projects to the northeast and east, and the Otay Water District, Salt Creek Ranch and Salt Creek Ranch I to the south. Bonita Meadows occurs to the southwest and west of the project. Each of these properties support a variety of sensitive biological resources. The area around the Sweetwater Reservoir supports a significant population of California gnatcatchers and cactus wrens, and supports one of the densest least Bell's vireo populations in the United States. Rare plants including Otay tarweed and coast barrel cactus also occur on this property. Areas to the north and east support a large gnatcatcher population, and Mother Miguel Mountain has one of the richest rare plant assemblages in the county. The remaining open space areas along the southern portion of the site also have numerous sensitive resources, although in more limited numbers.

This combination of a high diversity of rare plant and animal species with high population densities, and its proximity within a much larger regional open space preserve cumulatively make this site one of the most significant parcels of undeveloped land remaining in San Diego County for biological resources. Impacts to biodiversity of the site are significant.

The following is an itemization of impacts for the proposed project. Impacts of the project alternatives are described in Section 5 of Draft EIR 90-02.

Vegetation/Habitats

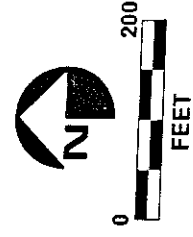
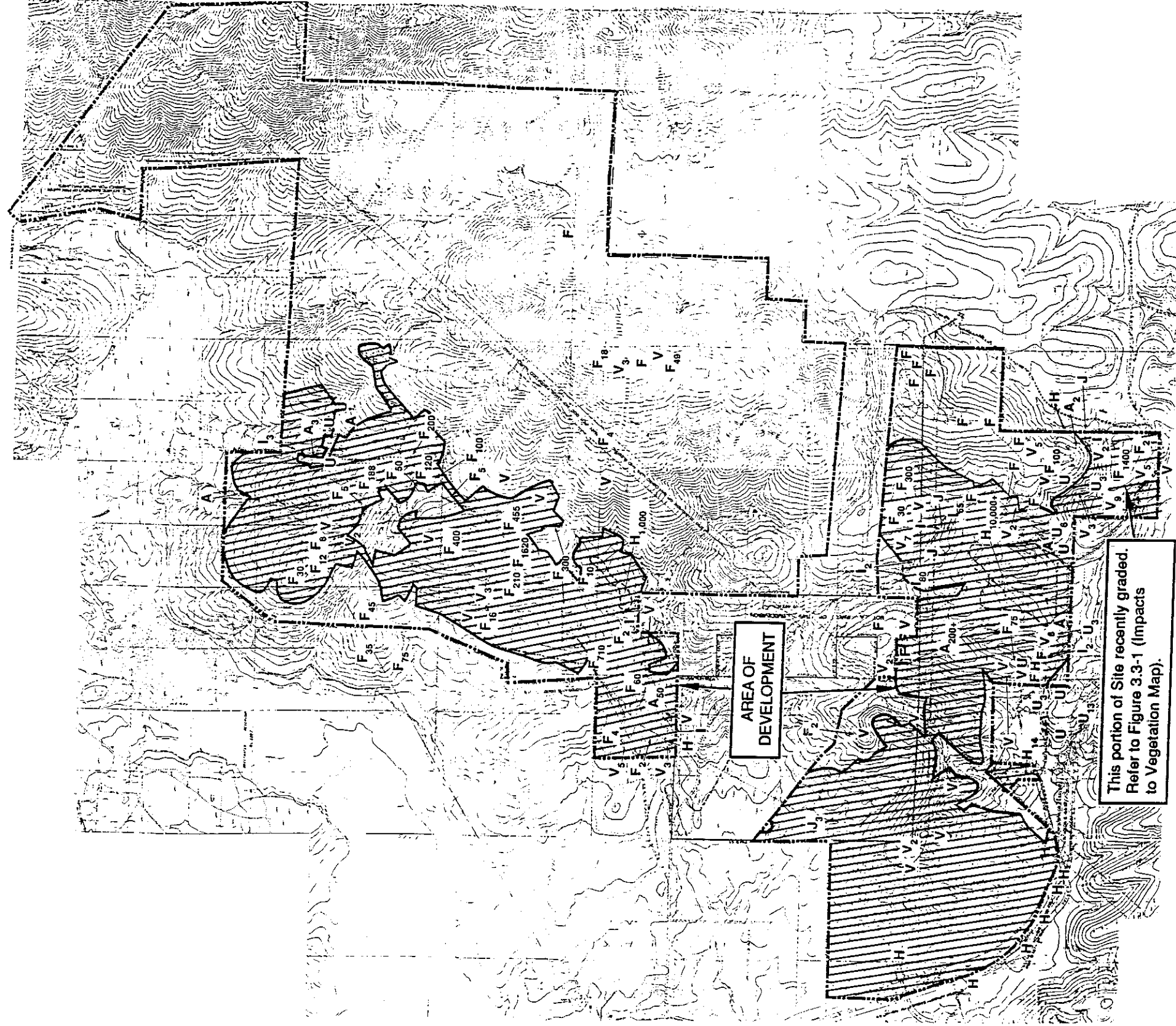
Table 3.3-5 shows the project-related reduction of habitats by acreage. These data assume that all potential open space areas onsite shall remain "intact" as natural biological open space, except for parks. Proposed project development is concentrated in the western and southern portions of the site, with the majority of open space proposed in the central and eastern portions of the site, including the western slopes of San Miguel Mountain. Figure 3.3-1 depicts project impacts to sensitive habitats.

Impacts to vegetation were divided into two categories: direct impacts and indirect impacts. Direct impacts concerned areas that would be developed or areas where grading or other permanent types of development activities would occur. This would include backyard areas where no grading may be proposed, but degradation of the habitat would result from use of the site by future homeowners. Indirect impacts to biological resources would occur in areas that would be to a greater or lesser extent surrounded by housing units. Such "islands" of habitat would probably decrease in viability for plant and animal species, as discussed below and in Appendix B, because of an increase in man-related disturbances. Fragmented communities have a diminished capacity to recover from disturbance.

Impacts to sensitive habitats are discussed below:

Wetlands - Wetlands include dry marsh/riparian scrub and riparian scrub dominated by mulefat. Direct elimination by filling of wetlands and potential degradation or elimination by placement of wetlands within residential lot boundaries could result in wetland impacts of up to 3.1 acres. Although these habitats are not of high quality onsite, the degradation or filling of up to 3.1 acres of wetland habitat is considered a significant effect given the rarity of this resource, its value to wildlife, its recognition by the county and the resource agencies as a sensitive habitat, and the fact that portions of the washes onsite support two sensitive species of plants, San Diego marsh elder and spiny rush. Over 80 percent of the impacts occur within backyard areas of proposed lots, and would not result in the complete elimination of the habitat.

Filling of wetlands would require a CDFG 1603 Agreement. Impacts to 3.1 acres of wetlands may require a Pre-discharge Notification submitted to the U.S. Army Corps of Engineers and a 404 permit could also be required.




- LEGEND**
- F_{100} = LOCALIZED BOUNDARY OF *Ferocactus viridescens* DISTRIBUTION WITH APPROXIMATE NUMBERS
- F = SMALL NUMBER OF ISOLATED *Ferocactus viridescens* INDIVIDUALS
- H = *Harpagonella palmeri* POPULATION (<100 Individuals)
- (H) = *Harpagonella palmeri* POPULATION (10,000+ Individuals)
- A = *Adolphia californica*
- U = *Salvia munzii*
- V = *Viguiera laciniata*
- J = *Juncus acutus*
- I = *Iva hayesina*
-  AREA OF DEVELOPMENT

Table 3.3-5
IMPACTS TO HABITATS ON THE
RANCHO SAN MIGUEL SITE IN ACRES

	Existing Habitat	Habitat Remaining After Development	Direct Impacts*	Indirect Impacts* +
Diegan Coastal Sage Scrub	1,922.0	1,447.0 (75)	467.0 (24)	48.0 (1)
Disturbed Native Grassland	16.0	16.0 (100)	0.0	0.0
Chamise Chaparral	23.0	23.0 (100)	0.0	0.0
Southern Mixed Chaparral	132.0	132.0 (100)	0.0	0.0
Non-Native Grassland	532.0	107.0 (20)	415.0 (78)	10.0 (2)
Wetland**	13.1	7.6 (58)	3.1 (24)	2.4 (18)
TOTALS	2,638.1	1,732.6	885.1	60.4

*Numbers in parentheses are percentages of habitat out of total habitat.

+Habitat "islands" surrounded or nearly surrounded by proposed development.

**Wetland habitat onsite includes Dry Marsh/Riparian Scrub habitat and Riparian Scrub habitat dominated by mulefat.

Diegan Coastal Sage Scrub - A total of 24 percent of the coastal sage scrub onsite would be eliminated under the proposed development plan. The loss of 467 acres of this habitat is a significant impact of the proposed project. In addition, this loss would contribute to the regional reduction of coastal sage habitat. Sensitive species that are a part of this habitat onsite include important populations of coast barrel cactus, Munz's sage, California gnatcatcher, and cactus wren. These species are concentrated in the coastal sage scrub habitat proposed for development, and are discussed below.

Non-native Grassland - The extensive loss of non-native grassland habitat is considered cumulatively adverse but nonsignificant, except where it contains large populations of the rare native plants, Palmer's grappling hook and Otay tarweed. Loss of this portion of the disturbed non-native grassland is considered significant. Surrounding grasslands are rapidly

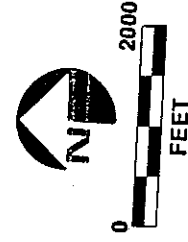
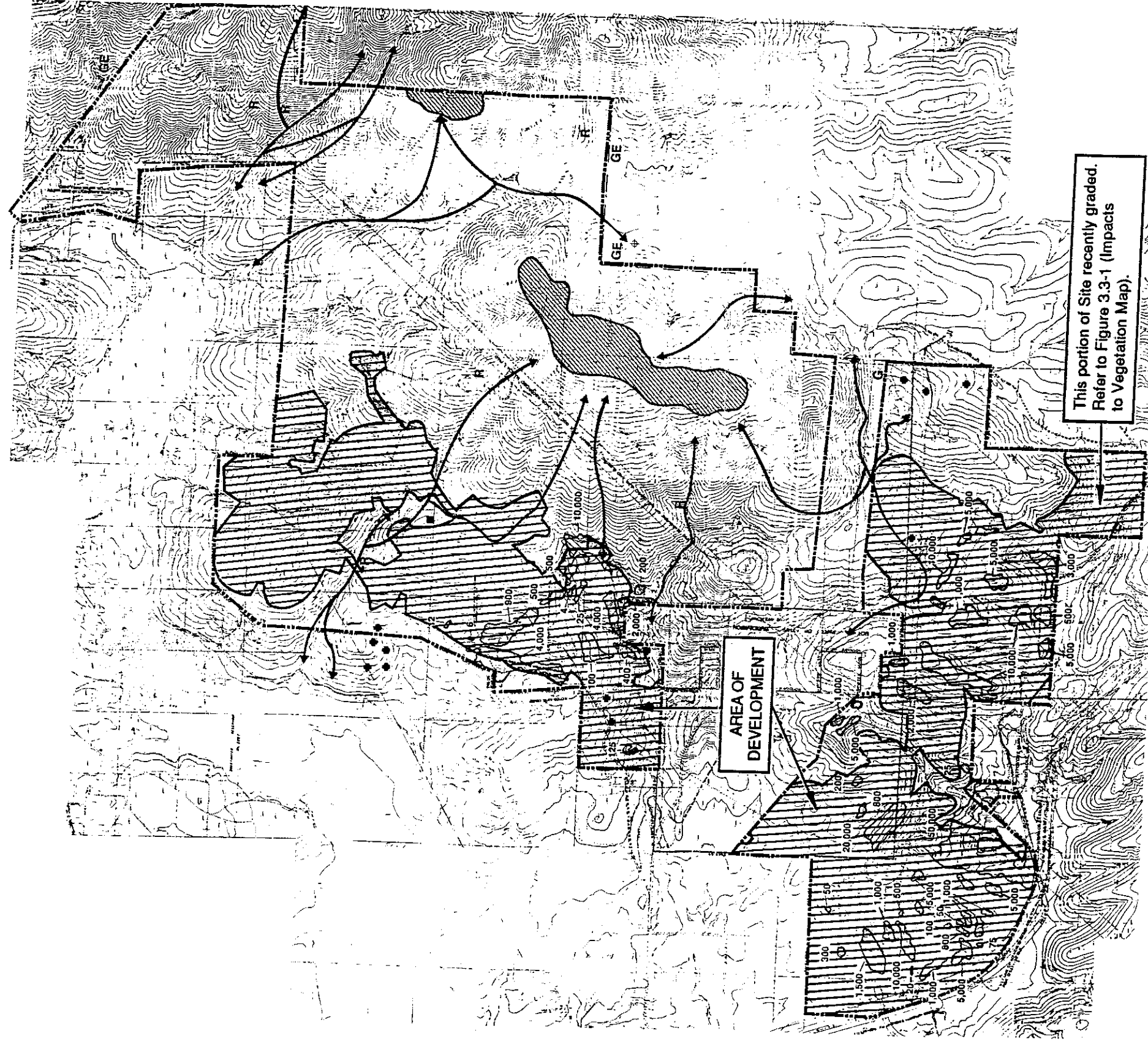
being developed or are proposed for development, constituting an important cumulative loss of foraging habitat for raptors.

Plant Species

Table 3.3-6 summarizes the effects to sensitive plants onsite. Fourteen sensitive species were observed, and impacts to six of these species are considered significant: Otay tarweed, California adolphia, coast barrel cactus, Palmer's grappling hook, San Diego marsh elder, and spiny rush (Figure 3.3-2). Impacts to the remaining species are not considered significant.

Approximately 70 percent of the 200,000 individuals of Otay tarweed detected during the 1991 surveys would be impacted by the project as revised. Most of these impacts would occur in the western and central parts of the southern portion of the site. In particular, approximately 9,000 of the population of approximately 50,000 individuals detected adjacent to the SDG&E substation on Proctor Valley Road would be lost to development. These impacts are considered significant.

Approximately 6,300 of the estimated 8,000 coast barrel cactus individuals onsite would be impacted. The site represents one of the more impressive barrel cactus populations in the county. Two of the denser populations in the northern and southern portions of the site, consisting of approximately 1,250 and 1,400 individuals respectively, would be eliminated. Due to the overall loss of approximately 80 percent of this large population of a CNPS List 2 species onsite, the project impact is considered significant.



- LEGEND**
- ↔ LARGE MAMMAL MOVEMENT CORRIDORS
 - ▨ *Hemizonia conjugens* (Approximate Population)
 - ▨ LARGE MAMMAL HIGH USE AREA
 - CACTUS WREN TERRITORY
 - SAN DIEGO HORNED LIZARD
 - R RAPTOR NEST SITES
 - GE HISTORIC GOLDEN EAGLE NEST SITES
 - G GOLDEN EAGLE PERCH
 - ▨ AREA OF DEVELOPMENT

**TABLE 3.3-6
IMPACTS TO SENSITIVE PLANTS ONSITE**

<u>SPECIES</u>	<u>EFFECT</u>	<u>COMMENT</u>
Otay Tarweed	Significant	70% impacted (approximately 150,000 individuals). Dense populations impacted in western and central parts of the southern portion.
Coast Barrel Cactus	Significant	80% onsite (approximately 6,300 individuals) impacted. Dense populations impacted in northern and southern portions of the site.
Palmer's Grappling Hook	Significant	90% onsite (approximately 10,000 individuals) impacted. Dense populations impacted in the south portion of the site.
California Adolphia	Significant	345 plants impacted onsite. Species not impacted in northern and northeastern portions of site. Species also present adjacent to site.
San Diego Marsh Elder	Significant	90 percent (approximately 300 individuals) impacted.
Spiny Rush	Significant	50 percent (approximately 200 individuals) impacted.
Munz's Sage	Nonsignificant	Over 50% impacted. Only individuals in the southeastern portion of the site lie outside development area.
Mesa clubmoss	Nonsignificant	Common onsite. Estimated 20 percent loss associated with loss of coastal sage scrub and mixed chaparral habitats onsite.
S. D. Sunflower	Nonsignificant	Approximately 40 percent impacted. Large number of plants would not be impacted in the eastern portions of the site.

At least 11,000 individuals of Palmer's grappling hook occur on the property. All known individuals on the site would be impacted. The largest population onsite is in the central part of the southern portion of the site. This species is widely distributed within three counties in southern California, however, the loss of such a large population of this CNPS List 2 species from the project is considered significant.

At least 735 California adolphia plants occur on the property. The three most abundant populations onsite are two in the southern portion with approximately 300 plants and one on the northern portion with approximately 350 plants. One south population is south of the Miguel Substation (i.e., approximately 200 individuals), and the other is on a slope south of the existing ranch (over 100 individuals). Both of these populations would be impacted. The north population is in the southwestern corner of the site, north of the SDG&E substation. Due to the overall loss of the onsite population of this CNPS List 2 species, the project impact is considered significant.

Approximately 340 San Diego marsh elder individuals occur on the property. Populations onsite are concentrated along intermittent drainages and are often associated with wetland vegetation associations. This species is more common and widespread south of the border and the south county region, although, it is considered to be relatively rare within the county. Because of its location within a wetland, and due to the loss of approximately 90 percent of the onsite population of this CNPS List 2 species, the impact is considered significant.

Approximately 400 individuals of spiny rush were detected on the project along intermittent drainages associated with wetland habitats. Roughly 50 percent of the plant individuals would be impacted by the project. This species is relatively widely distributed in southern California, but is restricted to wetland habitats. Because of its location within wetlands, impacts to this species are considered significant.

Approximately 425 Munz's sage individuals occur on the property. Two populations onsite occur in the northern and southern portions near the property boundary. Although Munz's sage individuals onsite lie near the northern distributional limits of this species, and the project would impact over 50 percent of this CNPS List 2 species, the impacts are not considered significant because this species has wider distribution and larger populations elsewhere.

Wildlife Species

Table 3.3-7 summarizes the effects to observed sensitive wildlife offsite. Twenty-one sensitive species were observed on the site, and two of these will be significantly impacted by implementation of the proposed project: California gnatcatcher and cactus wren (Figures 3.3-3 and 3.3-4). Nine sensitive wildlife species could occur on the site, including Hermes copper and Quino checkerspot butterfly, Swainson's hawk, ferruginous hawk, ringtail, American badger, California leaf-nosed bat, pale big-eared bat, and California mastiff bat. A discussion of sensitive species potentially occurring and impacts that would occur to these species if found onsite is included in Appendix B in Volume 2.

Other significant impacts to wildlife and wildlife diversity may result from the project. Fragmentation of wildlife habitat and increased impacts from pets, lighting, noise, and wild fires will reduce the quality of the existing habitat for many large mammalian predators, birds of prey, and their prey species. Movement corridors for wildlife identified in the northern portion of the property will be impacted by the placement of roads or by the removal of vegetation that will affect wildlife movement offsite. The crossing of Coon Canyon by two roads has the potential for reducing wildlife movement through the area, and will severely restrict movement on what is considered the most important corridor on the project site. Once the predator-prey interactions are disrupted the resulting quality of wildlife habitat and existence is reduced. Regionally, the northern portion of the property is part of a large block of contiguous open space that provides unrestricted movement between the Sweetwater Reservoir and Otay Mesa to the south. A full discussion of these impacts is included in Appendix B in Volume 2.

The wildlife species of highest sensitivity in the upland habitat is the California gnatcatcher. The proposed project will significantly impact this species (Figure 3.3-4). The plan would cause direct impacts to 40 (58 percent) of the existing 69 pairs and would partially impact 8 additional pairs (12 percent). Partial impacts would be expected for pairs which were observed adjacent to proposed development, and thus the majority of their territory would be lost. Reductions to the population could occur from indirect impacts through increased disturbance and fragmentation of the habitat for the species. Only 21 pairs (30 percent) of California gnatcatchers detected by ERCE are in the proposed open space not isolated by homes.

Table 3.3-7

IMPACTS TO SENSITIVE WILDLIFE SPECIES

<u>Species</u>	<u>Effect</u>	<u>Comment</u>
<u>Birds</u>		
American Peregrine Falcon	Nonsignificant	No breeding or foraging habitat onsite.
California Gnatcatcher	Significant	58 percent (40 pair) impacted and 12 percent (8 pair) partially impacted; 411 acres of occupied habitat impacted and 77 acres of potentially occupied habitat impacted.
Cactus Wren	Significant	54 percent (7 territories) impacted.
Black-shouldered Kite	Nonsignificant	67 percent foraging habitat lost, no nesting or breeding habitat.
Cooper's Hawk	Insignificant	No nesting or breeding habitat little foraging habitat, occasional visitor.
Sharp-shinned Hawk	Nonsignificant	Infrequent winter visitor
Golden Eagle	Nonsignificant	Retention of 70 percent of biological open space and high elevation areas; no impacts to nests. 77 percent of grassland and 26 percent of coastal sage scrub foraging habitat will be impacted.
Northern Harrier	Nonsignificant	Cumulatively adverse; one breeding pair impacted; grassland and sage scrub foraging habitat impacted. 77% of grassland and 26% of coastal sage scrub habitat will be impacted.

Table 3.3-7 (Continued)

IMPACTS TO SENSITIVE WILDLIFE SPECIES

<u>Species</u>	<u>Effect</u>	<u>Comment</u>
<u>Birds (Continued)</u>		
Prairie Falcon	Nonsignificant	No breeding habitat; cumulative loss of foraging habitat 77 percent of grassland foraging habitat will be impacted.
Burrowing Owl	Nonsignificant	Birds currently not occupying site; could be significant if birds return.
Blue-gray Gnatcatcher	Nonsignificant	Migratory Species
Turkey Vulture	Nonsignificant	Not currently breeding onsite, cumulative loss of foraging habitat.
Loggerhead Shrike	Nonsignificant	Significant foraging habitat exists on the eastern part of site.
Grasshopper Sparrow	Nonsignificant	Cumulative adverse loss; few individuals occur onsite 77 percent of grassland foraging and breeding habitat will be impacted.
Rufous-crowned Sparrow	Nonsignificant	Significant number of animals protected in the eastern part of the site. No loss of chaparral foraging and breeding habitat.
Sage Sparrow	Nonsignificant	Loss of habitat not considered significant; cumulative decline of this species' population in region. 26 percent loss of sage scrub habitat.

Table 3.3-7 (Continued)

IMPACTS TO SENSITIVE WILDLIFE SPECIES

<u>Species</u>	<u>Effect</u>	<u>Comment</u>
<u>Birds (Continued)</u>		
Greater Roadrunner	Nonsignificant	Loss of habitat not considered significant; cumulative decline of this species' population in region
<u>Reptiles</u>		
San Diego Horned Lizard	Nonsignificant	Significant amount of habitat protected in the eastern part of the site. 26 percent loss of shrubland habitats.
Orange-throated Whiptail	Nonsignificant	Significant amount of habitat protected in the eastern part of the site. 77 percent loss of grassland and 26 percent loss of shrubland habitats.
Two-striped Garter Snake	Nonsignificant	No direct impacts; possible reduction by pet predation and collecting. Potentially a 41 percent loss of habitat. This particular snake species requires permanent sources of open water which occurs only within the two ponds located in the northern portion of the site.

Approximately 411 acres (49 percent) of occupied gnatcatcher habitat will be directly impacted, and 43 acres (5 percent) will be indirectly impacted, 383 acres (46 percent) being retained in biological open space. Approximately 77 acres (54 percent) of potential breeding habitat that was not occupied during the spring ERCE surveys will be directly impacted, and 6 acres (3 percent) will be indirectly impacted. A total of 76 acres (46 percent) of potential breeding habitat will remain in biological open space.

The California gnatcatcher population on Rancho San Miguel is part of a larger core population for the entire species. Census data accumulated from previous offsite surveys and the Rancho San Miguel survey indicate well over 100 pairs of gnatcatchers in the sage scrub habitat along the Sweetwater River (SEB 1984, WESTEC 1987).

If the gnatcatcher is listed as endangered, it is likely that all suitable sage scrub habitat for the species would be affected. Section 9 of the Endangered Species Act prohibits the "take" (e.g., harm, harassment, pursue, injure, kill) of federally listed fish and wildlife species. "Harm" is further defined as an act which may result in significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns including breeding, feeding, or sheltering (50 CFR 17.3). Direct and indirect impacts which are considered "take" are: elimination of individuals and their habitat, impacting of habitat by excessive noise or night lighting, and long-term degradation of habitat by increased fires as a result of an activity. If the gnatcatcher becomes listed prior to issuance of all discretionary actions by the city, including grading permits, construction activities on the site could be stopped until either all "takes" resulting from the project are eliminated, or a Habitat Conservation Plan (HCP) for the species is developed as directed under Section 10(a) of the act. Development of an HCP may allow for limited impact to Diegan coastal sage scrub by the development.

If the coastal cactus wren is considered a separate subspecies, then the cactus wren is the most seriously threatened species on the site. Only 200 pairs are known to remain in coastal San Diego County (Rea and Weaver 1991). Of the 13 pairs on and near the project site, 7 pairs (54 percent) would be eliminated under the current development plan. These impacts are considered significant.

Loss of raptor foraging habitat in the grasslands and open sage scrub habitats is considered a cumulatively adverse impact. Changes in species composition will most likely occur in the urban fringes. Impacts to these species are discussed in greater detail in Appendix B of Volume 2.

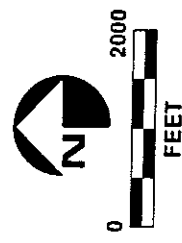
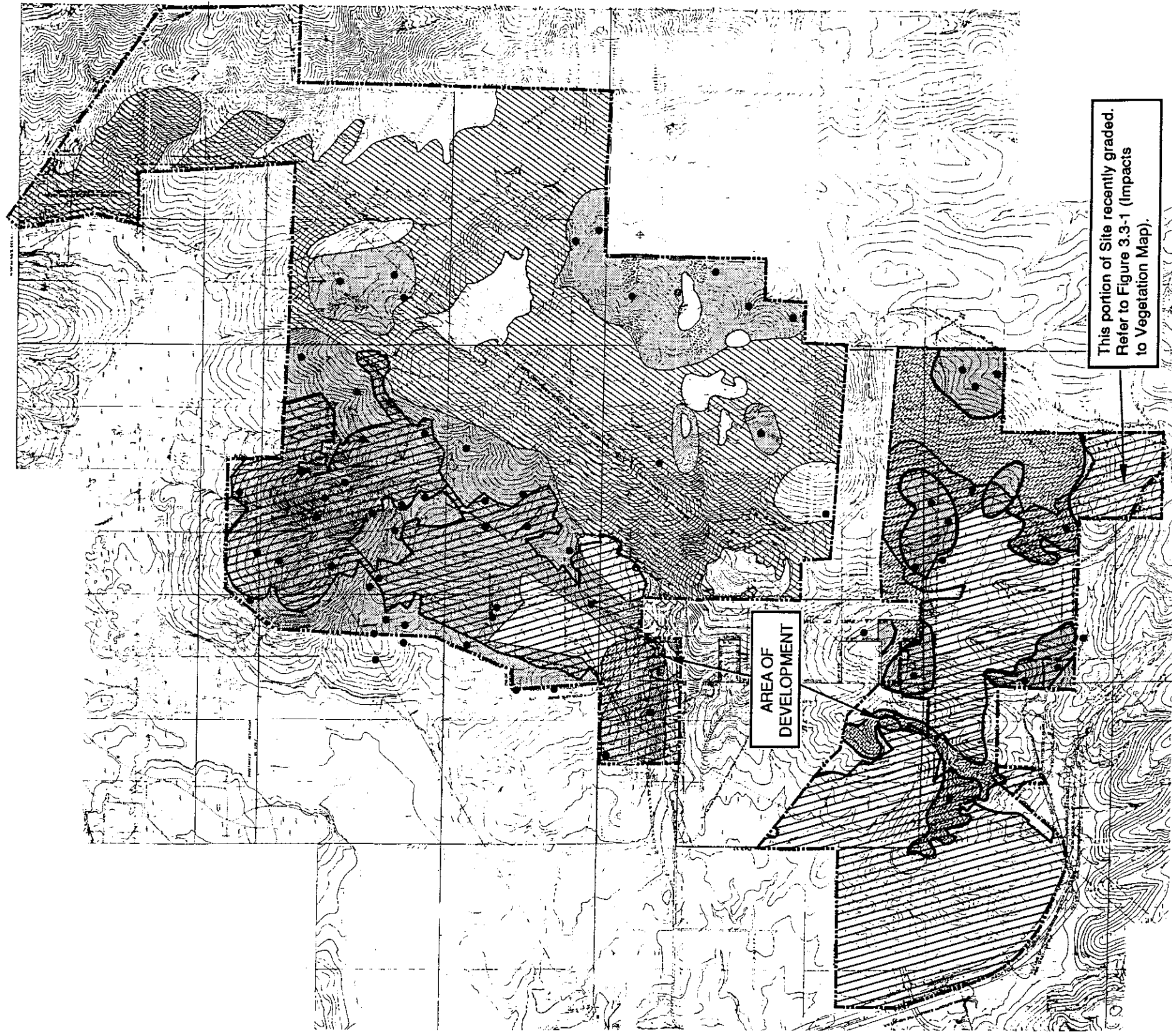
Deer corridors in the northern portion of the site would be significantly impacted by the proposed development. The major wildlife corridor through Coon Canyon would be greatly reduced by two roads cutting across the canyon and by housing units adjacent to the corridor. The total length of this corridor is approximately 2,400 feet, its width varying between approximately 300 and 900 feet. Bridges have been proposed to reduce the potential for constricting movement through this area. Viability of the Coon Canyon corridor will be reduced because the proximity of housing will preclude some species' movement through the corridor. Other landscape corridors along ridges and drainages will be altered by the incursion of development and roads in the northern and southern portions. Unless the offsite northern areas become developed, movement can occur around the northern portion of the site and through the San Diego Gas and Electric easement after implementation of the project.

Any extensive development of the western half of the northern portion of Rancho San Miguel would have an unmitigable significant adverse impact upon biological resources.






Mitigation Measures

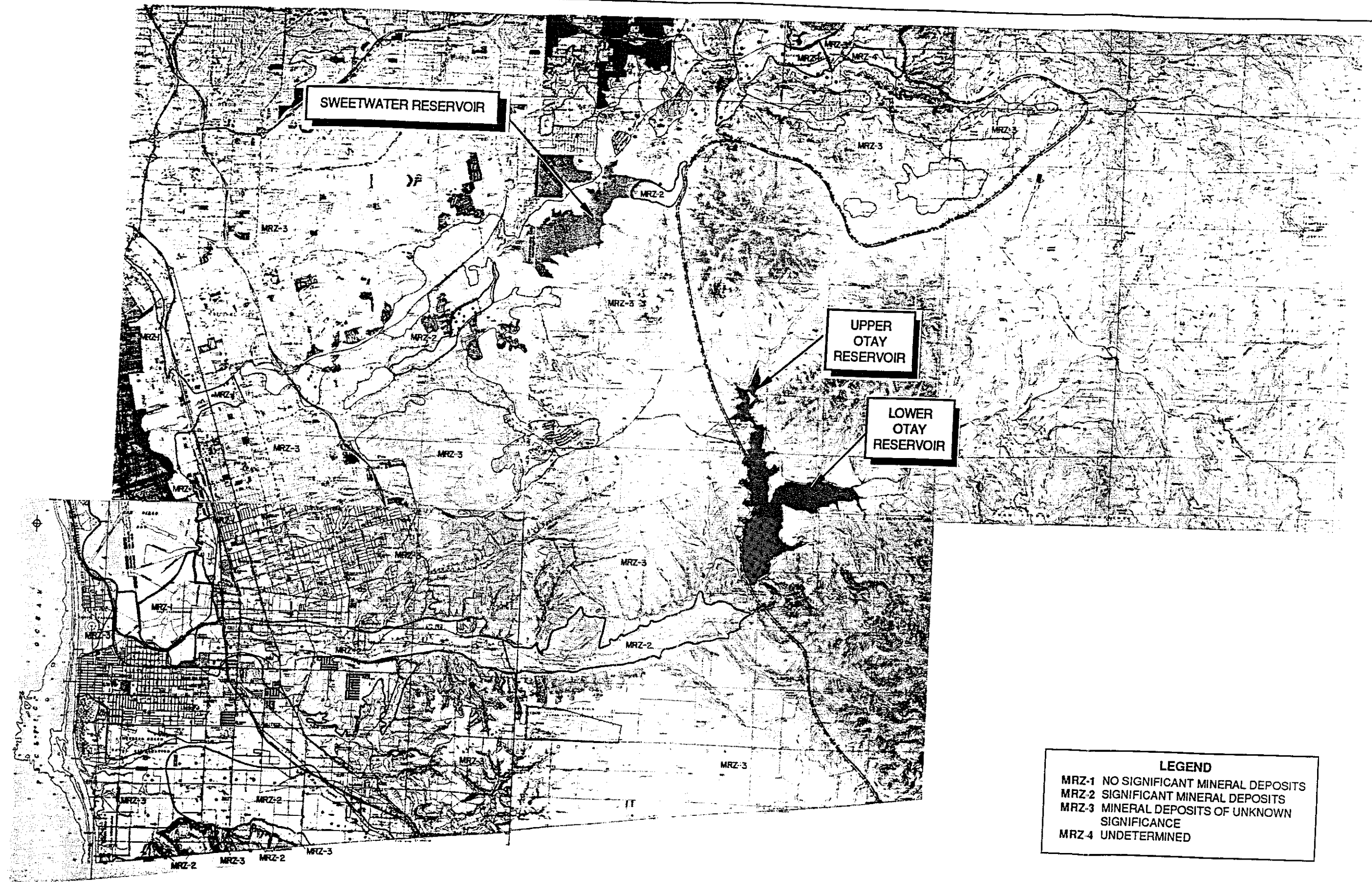
The New Plan proposes a preserve for the Otay Tarplant in the south parcel where the most dense population currently exists, and a redesign of a portion of the southern portion in Planning Area 15, so that a portion of the development area is left as open space to reduce impacts to the San Diego Barrel Cactus. In conjunction with the foregoing, a comprehensive southern mitigation plan is proposed. Table 3.3-8 contains a list of mitigation measures for individual species located on the project. The southern mitigation plan represents the consolidation of information previously presented in numerous letters and meetings between the applicant, the resource agencies, and the City or which has been previously committed to by the applicant.

A reduction in the identified impacts in the northern parcel could take place through adoption of a mitigation plan incorporating a redesign, consistent with Table 3.3-1. However, the applicant has not agreed to a redesign incorporating the guidelines set forth in Table 3.3-8 due to the lack of specificity of the measures outlined in Table 3.3-8. However, Table 3.3-8 was utilized as a basis for the preparation of a proposed mitigation plan for the northern parcel. This proposed northern mitigation plan includes defined criteria (which will require further evaluation at the SPA level) to enable a redesign to be undertaken at the SPA Plan level. The redesign would be included in a Supplemental L.R. on the SPA Plan, and the City of Chula Vista, as lead agency, shall retain final discretionary review and approval authority. The proposed mitigation plans are outlined below.



LEGEND

	OCCUPIED GNATCATCHER HABITAT
	UNOCCUPIED POTENTIAL BREEDING GNATCATCHER HABITAT
	DISPERSAL/FEEDING AREAS FOR GNATCATCHER
	GNATCATCHER TERRITORY
	AREA OF DEVELOPMENT



SOURCE: California Division of Mines and Geology

Table 3.3-8

CEQA REQUIRED MITIGATION MEASURES
FOR INDIVIDUAL SPECIES

1. Otay Tarweed	<p>Loss of such a large population of Otay Tarweed cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, a minimum of 80 percent of this plant species should be retained in open space, including the areas supporting the largest number of Otay tarweed. The most significant populations occur in the area adjacent to the SDG&E substation on Proctor Valley Road and in the area of Horseshoe Bend. For impacts which go beyond the 20 percent recommended above, a revegetation/restoration program could be implemented which would examine the potential for re-introducing this species into disturbed areas within proposed open space for the project. Any restoration efforts would require working closely with the CDFG. A minimum of 65 percent of the Otay tarweed shall be retained in open space, even if a restoration program is implemented. Such a redesign would reduce impacts to this species to below a level of significance.</p>
2. Coast Barrel Cactus	<p>Loss of such large populations of barrel cacti cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, the areas supporting the largest numbers of barrel cacti should be excluded from the development area. These areas are in the northeast and southeast corners of the proposed development area in the south section and in the west-central and northwest parts of the north section. Project redesign to avoid these areas would reduce impacts to below a level of significance. All impacted cacti should be salvaged and transplanted to proposed open space areas onsite.</p>
3. Variegated Dudleya	<p>No impact, no mitigation needed.</p>
4. Cleveland's Golden Star	<p>No known impact, therefore no mitigation needed</p>

Table 3.3-8(continued)

CEQA REQUIRED MITIGATION MEASURES
FOR INDIVIDUAL SPECIES

5. Palmer's Grappling Hook	Significant impacts to this plant cannot be mitigated with the project as proposed. The project should be redesigned to retain at least 50% of the areas where most of the Palmer's Grappling Hook occurs, in the eastern half of the southern portion and in the west-central part of the northern portion, as biological open space. Use existing easements as possible enhancement areas. Redesigning the project as suggested would reduce impacts to this species to a below a level of significance.
6. California Adolphia	Significant impacts to this plant cannot be mitigated with the project as proposed. The loss of significant populations of this plant can be reduced only by excluding the important patches of it from the development area. The project should be redesigned to protect at least 50% in biological open space. Such redesign would reduce impacts to below a level of significance.
7. Palmer Sagebrush	No impact, no mitigation needed.
8. San Diego Marsh Elder	Wetlands onsite should be avoided to the extent practicable. Unavoidable impacts could be mitigated through a revegetation program.
9. Munz's Sage	Impacts to this plant are not considered significant, no mitigation needed.
10. Mesa Clubmoss	Impact not significant, no mitigation needed.
11. San Diego Needlegrass	No impact, no mitigation needed.
12. San Diego Sunflower	Impact not significant, no mitigation needed.
13. Western Dichondra	No impact, no mitigation needed.

Table 3 3-8(continued)

CEQA REQUIRED MITIGATION MEASURES
FOR INDIVIDUAL SPECIES

14. Spiny Rush	Wetlands onsite should be avoided to the extent practicable. Unavoidable impacts to spiny rush could be mitigated through enhancement of wetland areas to include revegetation of spiny rush.
15. Orange-throated Whiptail	Impact not significant, no mitigation needed.
16. Golden Eagle	Impact not significant, no mitigation needed.
17. Cactus Wren	Impacts to cactus wren cannot be mitigated with the project as proposed. If a significant unmitigable adverse impact is to be avoided, the project must be redesigned to exclude at least 90 percent of all the occupied cactus thickets from the development area in contiguous biological open space. These lie in the eastern half of the south section and in the west-central and northwest portions of the north section.
18. San Diego Horned Lizard	Impact not significant, no mitigation needed.
19. California Gnatcatcher	Impacts to the California Gnatcatcher cannot be mitigated with the project as proposed. Mitigation for losses of the California gnatcatcher can be accomplished only through dedication of important tracts of the species' habitat into natural open space. These tracts must be linked in a network to allow for the birds' dispersal, maintenance of populations sufficiently large to be self-sustaining, and population recovery after fires which inevitably sweep through native scrub. Because Rancho San Miguel is a major part of a core gnatcatcher habitat, reductions to below a level of significance can be accomplished only through a project redesign that leaves a significant majority of the pairs and their habitat in natural open space. This would entail the exclusion of development from nearly all of the western half of the north section. Loss of a few gnatcatchers might be considered nonsignificant if the development in the north section were confined to the western extremity of already disturbed habitat.

SOUTHERN MITIGATION PLAN

Introduction

Where measures proposed are considered to be of substantial overall benefit, but for which either the City or one or both resource agencies still consider the impact not to be mitigated to below a level of significance under CEQA, this has been noted. In some instances, mitigation relies on continued development of specific details at subsequent phases of the environmental process. Where this occurs, a mitigation planning framework has been developed at the GDP level to provide a means of assuring a minimum threshold of mitigation is completed and to provide a context for further development of the mitigation measures.

1. Significant Impacts of South Parcel Development

The south parcel mitigation plan is designed to offset the following significant adverse biological effects of development. Impacts not identified are considered to be indicative of habitat qualities and are not independently significant:

1.1 Vegetation and Habitats

1.1.1 *Diegan Sage Scrub*

Impacts to approximately 156 acres of Diegan Sage Scrub (93 acres is of gnatcatcher occupied habitat and 63 acres of unoccupied habitat) would occur as a result of the development of the southern parcel.

1.1.2 *Wetlands*

Impacts to dry marsh and mulefat shrubland wetlands totaling approximately 0.5 acres (direct) and 1.1 acres (indirect encroachment) would occur within the southern development area.

1.2 Sensitive Flora

1.2.1 *California Adolphia*

Impacts to approximately 345 individuals of California Adolphia would occur under the GDP development envelope footprint.

1.2.2 *Coastal Barrel Cactus*

Impacts to an estimated 1,867 Coastal Barrel Cactus would occur.

1.2.3 *Otay Tarweed*

Impacts to approximately 144,000 plants of Otay Tarweed are expected as a result of the proposed development. Populations are widely scattered throughout the southern development area and the southern portion of the northern development area.

1.2.4 *San Diego Marsh Elder*

Impacts to approximately 30 individuals of San Diego Marsh Elder would occur within the southern development parcel.

1.2.5 *Southwestern Spiny Rush*

Impacts to approximately 15 individuals of Southwestern Spiny Rush would occur.

1.2.6 *Palmer's Grappling Hook*

Impacts to approximately 10,000 individuals of Palmer's Grappling Hook would occur.

1.3 **Sensitive Fauna**

1.3.1 *California Gnatcatcher*

Impacts to 6 pairs of California gnatcatchers would occur as a result of the proposed southern parcel development.

1.3.2 *Coastal Cactus Wren*

Direct impacts to one pair of Coastal Cactus Wren would occur as a result of the proposed southern parcel development.

2. **Mitigation Measures for South Parcel Development**

2.1 **Vegetation and Habitat**

2.1.1 *Diegan Sage Scrub*

The mitigation of Diegan Sage Scrub is to be accomplished by a combination of preservation in both the north and south parcels to a total of 2:1 preservation to impact ratio for sage scrub habitat. In addition, habitat is to be identified and preserved in a manner which replaces sage scrub occupied or suitable for occupation by California gnatcatchers by habitat that is also occupied by gnatcatchers. Where habitat is unoccupied then replacement may be suitably accomplished by preservation of similarly unoccupied habitat identified on-site.

The preservation of habitats is to be accomplished in the following manner:

IMPACTED HABITAT	RATIO	REPLACEMENT AREA FOR PRESERVATION	ON-SITE PRESERVATION FOR SOUTH	NORTH OPEN SPACE
93 acres (occupied)	2:1	186 acres (occupied)	33 ac.	153 ac.
63 acres (unoccupied)	2:1	126 acres (unoccupied)	113 ac.	13 ac.
156 acres (total)	2:1	312 acres (total)	146 ac.	166 ac.

Mitigation areas indicated do not include scrub habitats occurring within SDG&E easements. In addition to the set aside of this habitat, mitigation of the other resource impacts including those to cactus wrens and barrel cactus will result in the need to perform enhancement within open space areas. This will occur within the south parcel open space area and will enhance the quality of this habitat along currently cleared roadways and fringing grassland habitats. Enhancement efforts are discussed under each of the appropriate species specific mitigation measures. See Plate 4 for identification of the concept sage scrub preservation areas. Final mitigation area identification would be subject to requirements for habitat type preservation and required gnatcatcher pair preservation.

This mitigation program is in conformance with general standards of replacement outlined for mitigation of Diegan Sage Scrub habitat on the southern development parcel during a 6 May 1992 meeting at the City of Chula Vista and a letter dated August 10, 1992 from the Department of Fish and Game. Acreages have been increased to meet the USFWS requested 2:1 ratio. Habitats have, however, been reconfigured to maximize preservation benefits to other sensitive species requiring mitigation (i.e., barrel cactus), while not substantially increasing committed mitigation lands. As a mitigation standard the following is proposed:

The final defined and recorded open space shall include no less than 186 acres of gnatcatcher occupied sage scrub and no less than 126 acres of unoccupied sage scrub habitat (substitution of occupied acreage is acceptable). A total of 9 pairs of California Gnatcatchers shall be preserved within the recorded mitigation area.

2.1.2 Wetlands and Waterways

Mitigation of wetland impacts is to be primarily accomplished by avoidance measures. It is estimated that 0.5 acre of dry alkaline marsh occurs within the southern parcel in an area which cannot be avoided by the project work. In order to compensate for this impacted habitat, additional wetlands of a similar type will be increased within an area designated as open space in the southwestern portion of the north parcel (Figure 1). This area totals

approximately 10 acres and supports a very narrow channel bounded by non-native grassland upstream of an existing pond. This mitigation site would involve the reconfiguration of the northern development envelope at this location to eliminate encroachment by 5 lots.

A small detention basin is to be constructed on this channel to create a seasonal impoundment pond. The basin will be revegetated by Mulefat, San Diego Marsh Elder, and Southwestern Spiny Rush. Similar habitat occurs elsewhere on this channel and as such, it is expected that such mitigation may be readily accomplished in this location. Mitigation is to be completed on a 1:1 area and value basis as recommended by this Supplement.

2.2 Sensitive Flora

2.2.1 *California Adolphia*

To compensate for the proposed impacts to approximately 345 individual plants of California Adolphia, the plan calls for the preservation of 50% of this species in biological open space. To achieve this mitigation goal, the proposed project would include a mitigation area supporting a population with an estimated total of 350 plants in the southwestern portion of the northern parcel (Plate 4 of Volume 1). In addition, a population estimated to support approximately 40 shrubs would be incorporated into the open space on the eastern portion of the southern parcel (Plate 4). The results of this mitigation would be to set aside a total of 390 plants as south parcel mitigation for impacts to 345 plants (53% preservation). In both instances, the plants would be preserved away from development (the reconfiguration of the northern development envelope at this open space would eliminate lots adjacent to the mitigation area) and therefore management measures beyond open space fencing area not required.

As further mitigation beyond that specified in Table 3.3-8, populations are to be enhanced by the planting of young Adolphia seedlings in the periphery of the preserved populations. Special restoration attention will be paid to disturbed areas including trails, roadways and weedy clay grassland habitat adjacent to these populations. This species is also to be used as a buffer plant around preserve Otay tarweed populations. The Adolphia persists in areas of similar soils to that of the Otay tarweed and the thorny growth form of the Adolphia would provide an opportunity to create both valuable and functional buffer plantings around some of the Tarweed preserve fields. Mitigation at the SPA level will be required to include preserve design criteria.

California Adolphia Mitigation Program Guidelines

The following guidelines are to govern the treatment of Adolphia mitigation areas within the San Miguel Ranch site. Specific mitigation detail is to be developed at the SPA Plan level in conformance with the following standards:

1. Open space designated as N1 (Plate 4) is to be fenced in a manner acceptable to the City along all sides of the open space which face roadways. Fences which define the owner usable portion of the development envelope shall be of a wooden or block wall construction type and shall be installed prior to the

sale of any individual lots. Fences adjacent to wildlife crossings shall be set back from the edge of the road no less than 25 feet and should be open to allow large mammal crossing

2. All fuel management activities are to occur within the pad and identified limits of owner use areas adjacent to all open spaces, but specifically open space N1 and S4 for the purpose of the Adolphia mitigation program (Plate 4).
3. Not less than 300 seeding Adolphia shall be planted around the periphery of the preserved population occurring in the N1 open space (Plate 4). Plants shall be of either a liner/plant band or 1 gallon container size. Planting shall occur no later than December of the first year following initiation of grading within the southern parcel. All transplanting shall occur during the winter rainy season to maximize plant establishment and growth potential.
4. Transplanted Adolphia shall be monitored annually in the spring for a period of 5 years to ensure successful establishment and continued growth. Success shall be determined by the survival and growth over the 5 year period of no less than 30% of the plants. Annual monitoring reports shall be submitted to the City within one month of each monitoring event.
5. Long-term maintenance of fencing shall be required as part of the mitigation program.

2.2.2 Coastal Barrel Cactus

Of the 2,892 barrel cactus occurring in the south parcel, an estimated 1,647 cacti would be impacted by the proposed project. A full 1,380 (74%) of the cactus lost are attributable to the East H Street alignment as dictated by broader scale planning efforts which cannot be readily modified. The Draft EIR calls for an *in situ* preservation of specific populations of cacti in the northern parcel. However, the CDFG have given a target of 60% preservation with a transplant of the remaining cacti into open space as their threshold for significance. Both objectives may be met on-site through the establishment of open space in the north and southern parcels. A total of 1245 cacti can be preserved on site in the southern parcel and 1226 cacti shall be set aside for on-site preservation in the northern parcel as permanent open space (Thus out of 4,118 total cacti on the southern parcel and the northern parcel barrel cactus mitigation area, 2,471, or 60%, would be preserved). This total of 2,471 cacti preserved on site meets the 60% target preservation level of CDFG. This preservation would occur in open space parcels N2, N3, N4 and S1, S3 and S4, as shown in Plate 4 of Volume 1.

The estimated 1,647 cacti anticipated to be impacted by the southern parcel development would be transplanted to roadways, trails and margins of existing cacti stands in the south parcel S4 open space (Plate 4). Salvaged plants are to be transplanted into existing areas of the south open space in a manner which assists in restoring disturbed roadways currently occurring on the crest of the southern knoll. The combination of

preservation of open space in the south and transplantation of plants in the south will serve to mitigate impacts to the species. The transplantation of barrel cactus has been demonstrated to be successful in a number of areas, most recently the Otay Business Park on Otay Mesa adjacent to the International Border, which showed that approximately 90 percent of the plants survived over the 3 year period since transplanting. In addition, many of these have new off-spring and the population seems to be in a stable condition. Mitigation at the SPA level will be required to include preserve design criteria.

Coast Barrel Cactus Mitigation Program Guidelines

The following guidelines are to govern the mitigation of coast barrel cactus within the Rancho San Miguel open space. These criteria address open space protection and transplant techniques and receive site designations. The guidelines also identify requisite monitoring and success criteria for transplanted materials.

1. No less than 2,471 cacti shall be preserved *in situ* within open spaces designated as N2, N3, N4, S1, S3, and S4 (Plate 4 of Volume 1)
2. Open space S1, S3, and S4 shall be individually fenced on the development area side to prevent general access into these open space areas (Plate 4 of Volume 1). Fences which define the owner usable portion of the development envelope shall be of a wooden or block wall construction type and shall be installed prior to the sale of any individual lots. Fences along roadways or along the SDG&E easements should be set back from the edge of the roads no less than 25 feet and should be of an open nature to allow large mammal crossing.
3. All fuel management activities are to occur within the pad and identified limits of owner use areas adjacent to all open spaces.
4. The limits of grading shall be established by flagging and erection of a single strand heavily flagged construction fence around the entire perimeter of all disturbance areas. Prior to the initiation of grading, all identified barrel cactus within proposed areas of grading shall be marked on the north side for orientation and salvaged for transplanting. A mitigation monitor shall inspect the site following completion of the salvage operation to ensure that all identified cacti have been removed for subsequent transplant. Once the city has determined that all cacti have been removed, grading shall be allowed to proceed.
5. Salvaged cacti shall be transplanted into suitable sites along the ridgeline within the S4 mitigation area. Care is to be taken to ensure proper orientation of the cacti to prevent sunburning of the plants. It is estimated that 0.38 acre of suitable receiver area shall be required within the open space in order to plant cacti on an average density of 1 cactus/m². This open space supports numerous roadways through ridges bounded on both sides by cacti. The

target restoration areas would be these roadways.

6. Restoration sites shall be protected from vehicular traffic by directional signage and use of barrier posts to block access through the restoration area. Large cholla cacti are to be used around the barriers and throughout the roadway to develop habitat for cactus wren mitigation and will also serve to curb vehicular traffic. Areas are to be further seeded with an open sage scrub seed mix to include: deerweed (*Lotus scoparius*), white sage (*Salvia apiana*); and plantain (*Plantago erecta*) to assist in eliminating the appearance of a roadway, while not resulting in a competitive dominance of tall statured shrubs. This area does not naturally support dense vegetation, so it is unlikely that such will naturally develop over time.
7. Restoration efforts shall be monitored annually in the spring concurrent with the Adolphia monitoring for a period of 5 years and shall document the status of the mitigation site. Success shall be the survival of no fewer than 75% of the transplanted cacti and the general trend towards recovery of abandon roadways in a manner which would suggest long-term recovery of the site. Annual monitoring reports shall be submitted to the City within one month of each monitoring event.

2.2.3. *Otay Tarweed*

The Supplement has determined that impacts to Otay Tarweed are significant and unmitigable under the proposed plan and given the population sizes, distribution, and abundance of Otay Tarweed populations on the southern development area, only a substantial project redesign would result in the mitigation thresholds identified for reducing impacts to a less than significant level. The Supplement calls for an 80% preservation or a minimum of 65% preservation combined with a subsequent transplant program.

Mitigation measures for this species have attempted to incorporate concerns for long-term defensibility and viability of the proposed preservation areas. As mitigation, a reduction in the development envelope is proposed in the southwestern portion of the site and a designation of open space is proposed to include tarweed populations (see Plate 4, open spaces S1, S2, and a small portion of S3). The primary Otay tarplant mitigation site is to be created by the expansion of open space within the south along the SDG&E right-of-way as both the right-of-way and the adjacent area to be preserved support large dense stands of Otay tarplant. Approximately 10 acres of proposed residential development will be set aside and 5 acres of open space proposed as a development opportunity will be left as open space for a total of 15 acres, in addition to the existing SDG&E right-of-way of approximately 8 acres (not counted toward project mitigation) (open space S2). This open space expansion will provide mitigation for this species and is anticipated to be viable for the long-term as the area will be fenced to prevent encroachment by adjacent residents or by off road vehicle traffic and will be managed for the enhancement of the species. Although this species is an annual and numbers fluctuate significantly from year to year, the proposed mitigation area would include approximately 42,000 (29%) of the 144,000 plants occurring within the

southern parcel. An additional 11,000 plants occur outside of the development area and within the SDG&E easement corridors. The mitigation program has specifically targeted the most extensive and robust population of tarweed for preservation and management. Rejuvenation and management of the preserved tarweed populations is to be a focus of the mitigation program. Additionally, two major groupings of Otay Tarweed on the Northern Parcel, 1) an area of approximately 10,000 plants located in the southeastern portion of the development area on the Northern Parcel (See Figure 3.3-3), and 2) an area of approximately 2,000 plants also located in the southeastern portion of the development area on the Northern Parcel (See Figure 3.3-3) shall be placed in permanent open space. Mitigation at the SPA level will be required to include preserve design criteria for both the southern and northern populations. The mitigation program proposed for this species is outlined below; however, the impact to this resource cannot be mitigated to below a level of significance even with implementation of this mitigation program.

Otay Tarweed Mitigation Program Guidelines

This program would require on-going funded efforts in order to ensure the long-term viability of the preserved tarweed populations. This program fails to meet the CEQA specified mitigation objectives and, as such, impacts to the Otay tarweed remain significant. Nonetheless, the following measures reduce the significance of the impact, but not to below a level of significance:

1. Mitigation area S2 shall be protected by a fence as deemed appropriate by the City's biologist (Plate 4). The fence shall be gated by keyed access to allow for SDG&E to their existing utility easement. The easement area shall be fenced with a barbed wire fence to restrict general access by SDG&E into the tarweed reserve areas. The periphery of the site should be posted to notify the public of the presence of rare species.
2. The northern mitigation areas will be precisely delineated at the SPA level. Fencing of these areas will be required if any development of the north occurs in close proximity.
3. Fuel management shall be conducted solely outside of the mitigation area.
4. Plant materials to be used in the adjacent areas are to be of a non-invasive nature and shall be subject to review by a qualified biologist prior to approval of a specific plan. All species shall be confirmed to be compatible with the surrounding area. Native species are favored for this purpose.
5. Interior to the restoration area fence, a direct management program is to be undertaken to remove aggressive competitive exotic species including thistle and to replace these plants with compatible native elements typical of clay field environments. Weedy species are to be removed prior to their going to seed in the late spring. A seed mix of Purple Needlegrass, Blue Dicks, and Otay tarweed is to be dispersed on the site during the month of November.

Bulbous species should also be planted if available. Around the periphery, planting shall include adolphia shrubs to further restrict access and general use of the site.

6. The surrounding areas shall be drained away from the site using brow ditches and irrigation systems should be designed to prohibit any overcasting into the site.
7. Intermittent sheep grazing may be used as a part of the management program for the site. Grazing shall be managed by a trained biologist to ensure that seed has been dropped prior to allowing grazing to occur. This grazing may occur for a period of up to two to four weeks per year.
8. An annual monitoring and maintenance program shall be implemented to ensure that exotic weeds are kept under control and the fencing is maintained. This program shall be funded as a part of the maintenance assessment district. Work is to be undertaken only by a qualified biologist with experience in managing rare plant populations.
9. A Section 2081 agreement shall be entered into by DFG and the developer relative to management of the species within the preservation areas at the SPA Plan level of CEQA review, and consistent with the foregoing conditions.

2.2.4 San Diego Marsh Elder

San Diego Marsh Elder is to be used as a primary component in the creation of a 0.5 acre wetland mitigation site within open space area N1 (Plate 4). This species has been used very successfully in restoration programs and has been planted by seed as well as by container units. The mitigation program shall ensure that a minimum of 1:1 numerical replacement of plants impacted shall occur within the created wetland area. The mitigation area shall use both seed and container stock in the restoration program. Successful completion of this mitigation measure shall be the survival of not less than 30 individuals of this species at the restoration site over a 5 year period. Annual monitoring shall be conducted for a period of 5 years during the spring with reports being submitted within one month of each monitoring to the City. This mitigation measure meets the identified objectives of the EIR mitigation requirements. Mitigation at the SPA level will be required to include preserve design criteria.

2.2.5 Southwestern Spiny Rush

Southwestern Spiny Rush is to be used as a primary component in the creation of a 0.5 acre wetland mitigation site within open space area N1 (Plate 4). This species has been used very successfully in restoration programs and has been planted by seed as well as by container units, although seeding appears to work best. The mitigation program shall ensure that a minimum of 1:1 numerical replacement of plants impacted shall occur within the created wetland area. The mitigation area shall make use of site collected seed in the

restoration program. Successful completion of this mitigation measure shall be the establishment and survival of not less than 15 individuals of this species at the restoration site over a 5 year period. Annual monitoring shall be conducted for a period of 5 years during the spring with reports being submitted within one month of each monitoring to the City. This mitigation measure meets the identified objectives of the EIR mitigation requirements. Mitigation at the SPA level will be required to include preserve design criteria.

2.2.6 Palmer's Grappling Hook

While impacts to Palmer's Grappling Hook cannot be mitigated to below a level of significance on the southern parcel, mitigation for impacts to this sensitive species is still proposed. The area in the southeastern corner of the development area on the northern parcel which contains approximately 1,000 plants (see Figure 3 3-2) shall be placed in permanent open space. If any development on the northern parcel occurs in close proximity, a minimum 50 foot buffer shall be provided, and fencing shall be placed around the entire preserve area. Plant materials used in adjacent areas for landscaping shall be subject to review by a qualified biologist prior to approval of a specific plan. Interior to the restoration area fence, a direct management program will be implemented to remove aggressive competitive exotic species. The surrounding areas shall be drained away from the site using brow ditches.

2.3 Sensitive Fauna

2.3.1 *California Gnatcatcher*

The 6 pairs of gnatcatchers affected by the project would be mitigated by the preservation of 9 pairs of gnatcatchers within identified open space areas N2, N4, and S4 (Plate 4). The final configuration of open spaces shall be adjusted as necessary to ensure the preservation of appropriate habitat and numbers of birds at the SPA Plan review level. To ensure long-term survival of these birds, open space on the southern parcel shall be fenced along the edge facing development and fuel maintenance shall be restricted to the areas outside of the open space. The preservation of the 9 pairs will be totally within open space areas. Mitigation at the SPA level will be required to include preserve design criteria.

2.3.2 *San Diego Cactus Wren*

The one pair of coastal cactus wren which would be impacted will be mitigated by the preservation of 3 pairs of cactus wrens located in the southern open space parcel (S4). In addition, cholla stands which are to be impacted by the project will be transplanted to expand and enhance the cactus wren populations in the south parcel S4 open space. Transplanted cactus habitat shall be created in disturbed areas of the south parcel open space over an area equal to or exceeding the use area of the cactus wren pair to be displaced prior to elimination of the existing occupied habitat onsite. To determine the appropriate mitigation area, the activity patterns of the impacted cactus wren and the 3 territories within

the S4 open space shall be monitored to determine boundaries of the home ranges and to characterize the important elements of home range usage. In addition, vegetation will be characterized within the home range using standard vegetation transect methodology to determine plant cover, height, and frequency distribution of various elements

Enhancement for coastal cactus wrens by transplantation of large cholla cactus has shown promise in the Poggi Canyon cactus transplant, in which cactus moved in 1990 were occupied by one nesting pair of coastal cactus wrens in 1992. The nest supported eggs and young early in the season, however neither the adults or young could be located in July. For this reason, it is unknown whether this pair successfully fledged young this year. Mitigation at the SPA level will be required to include preserve design criteria.

Coastal Cactus Wren Mitigation Program Guidelines

The following parameters shall form the basis for studies to be conducted on the on-site coastal cactus wrens and shall form the basis for the final cactus wren mitigation program development. In that a study to document characteristics of wren habitat is to precede the determination of the ultimate appropriate restoration measures for this target species, the guidelines below should be considered a working framework with minimal milestones to be finalized at the subsequent specific plan stage.

1. Three pairs of coastal cactus wrens are to be protected within the S4 open space identified in Plate 4. This open space is to be fenced along the development sides to prevent general access.
2. A monitoring program shall be implemented to characterize habitat requirements of coastal cactus wrens. The study shall include an analysis of the three cactus wren pairs in open space S4 as well as the one pair to be impacted in the southern development area. The monitoring program shall run for a period of one year. An interim report shall be prepared to detail the results of the first 6 months of monitoring. This report shall be completed and shall be submitted to the City, USFWS, and CDFG. The results of this report shall be used to establish mitigation criteria for SPA approvals. A final report is to be completed and shall form the basis for final mitigation designs and grading permit issuance in the development area supporting the cactus wren pair. The program shall include the following:
 - a) Weekly monitoring and home-range use studies of each of the 4 territories shall be conducted for a period of no less than 2 hours/territory/interval. Monitoring periods are to be staggered to ensure all diurnal periods are covered for each pair. Studies are to include a documentation of activity budgets (ie. foraging, displaying, defending, roosting, breeding, etc.) , an identification of time spent on each primary plant taxa occurring within the territory, and an identification of home-range size, shape and location over the course of the year using occurrence frequency data.

- b) Vegetation characterization of each home-range is to be completed during the pre-breeding spring months of 1993. This work shall include a documentation of percent composition of various elements, frequency distribution of elements, height structure, and similarity between territories. Work is to be completed along 50 meter line intercept transects distributed randomly within home-ranges. The number of transects to be used in each territory shall be determined based on territory size and homogeneity.
- c) An analysis of existing territory sizes and composition and recommendations for restoration of a territory within open space S4 as a compensation territory. This recommendation shall be based on observed activities and conditions within occupied territories and shall include a consideration of "favored" habitat elements and territorial boundary interactions. The report shall also consider existing restoration technology and shall make recommendations as to the most appropriate restoration techniques to maximize success. This report shall include a habitat restoration plan which provides specific guidance on creating a suitable habitat for cactus wrens and appropriate maintenance, monitoring and success milestones.

2.4 Open Space Management Requirements

The potential open space areas discussed above should be retained as biological open space in open space easements on the project site. Management of the biological resources on the site and monitoring programs to retain the viability of the open space for wildlife shall be incorporated into an Open Space Management Plan, with the approval of the City of Chula Vista, USFWS, and CDFG. The plan shall be approved concurrently with the SPA Plan approval. The plan should be reviewed and revised as needed to retain biological resources (Table 3.3-8).

3. Residual Significant Effects

With the implementation of these mitigation measures, the mitigation conditions and issues raised by the USFWS and CDFG are believed to be met for the south parcel development program with the exception of the outstanding significant loss of Otay Tarweed and Palmers' Grappling Hook. The program includes measures which will require further consideration and specificity at the SPA Plan level. Mitigation at the SPA level will be required to include preserve design criteria. These include the following:

1. Refinement of the Diegan Sage Scrub open space preservation boundaries to insure the specific inclusions of all resource elements necessary to meet mitigation requirements.
2. Development of a site specific mitigation plan for the creation of 0.5 acre of wetlands in open space N1 (Plate 4 of Volume 1).

3. Development and approval of a specific mitigation plan for coastal cactus wren habitat based on the results of the interim report on the cactus wren study

NORTHERN MITIGATION PLAN

Introduction

As indicated in Tables 3.3-5 (habitat impacts), 3.3-6 (plant impacts) and 3.3-7 (wildlife impacts), the project, as proposed, would significantly impact sensitive vegetation habitat, six sensitive plant species and two sensitive wildlife species. Specifically, the proposed project would significantly impact the following:

1. Diegan coastal sage scrub;
2. Dry marsh and mulefat shrubland wetlands;
3. Non-native grassland containing sensitive plant species;
4. California gnatcatcher;
5. Cactus wren;
6. Olay tarplant;
7. Coast barrel cactus;
8. Palmer's grappling hook;
9. California adolphia;
10. San Diego marsh elder; and
11. Spiny rush.

The biological significance of the Northern Parcel from a regional standpoint is acknowledged. As previously stated in this Supplement:

"The Rancho San Miguel site supports one of the richest and most diverse assemblages of unique and sensitive biological resources in Southern California. Thirteen sensitive plant species and twenty sensitive animal species are known to occur on the project site. Additionally, the site is potentially the single largest concentration of California gnatcatchers in southern California, and may support the largest known population of Olay tarweed in San Diego County. Regionally significant populations of coast barrel cactus and San Diego cactus wren are also present onsite. Individually, many of the 33 sensitive species found on the site would be considered significant resources. The high diversity and large population sizes of these resources compounds the significance of the site for biological resources.

The location of the site is also important in that it lies within a larger block of contiguous open space to the north, east and south, and is adjacent to one of the largest populations of the federally endangered least Bell's vireo, which

occurs along the upper reaches of the Sweetwater Reservoir. The northern portion of the project is contiguous with an existing gnatcatcher population occurring throughout the Sweetwater River Valley to just above Singing Hills Golf Course that likely exceeds 150 pair. This could represent as much as 10 percent of the U.S. population of gnatcatchers. The northern portion of the site serves as a major movement corridor between the Otay Mesa area to the south and the Sweetwater Reservoir."

Because the proposed project is at the GDP level of review, a "worst case" approach was used to identify impacts to biological resources to the entire project. This approach assumed that each entire lot within the large lot development areas in the north would be fully impacted by development.

Under the California Environmental Quality Act ("CEQA"), the measures which could minimize identified impacts to biological resources in the northern parcel include the adoption of alternatives to the proposed project, or the adoption of a mitigation plan incorporating a redesign of the northern parcel. Two of the project alternatives identified in the Draft EIR, the biologically sensitive alternative and the south only development alternative, would eliminate all proposed development in the northern parcel. Under each of those alternatives, the entire 1,852-acre northern parcel would be part of an open space area encompassing Mother Miguel Mountain. See, Draft EIR 90-02, Section 5. These two alternatives would eliminate impacts to sensitive species and biological corridors in the northern parcel.

Aside from the identified project alternatives, a reduction in the identified impacts could take place through adoption of a mitigation plan incorporating a redesign of the northern parcel. The project applicant is proposing to reduce identified impacts to biological resources through adoption of a mitigation plan for the northern parcel.

The mitigation plan for the northern parcel is intended to be developed further at the SPA Plan level, which is the next phase of the environmental review process for the project. At the initial GDP level of review, however, it is important to establish the mitigation criteria and planning framework to ensure that a programmatic mitigation plan is provided. In this way, the planning context is in place for completion of the mitigation plan at the SPA Plan level. The final mitigation plan will be open to subsequent review and environmental analysis by the City of Chula Vista, federal and state reviewing agencies and all other interested persons.

The mitigation plan, which will be made part of the applicant's Sectional Planning Area ("SPA") Plan, shall satisfy all of the criteria set forth below

Mitigation Plan

1. Commitment to Prepare Mitigation Plan

The project applicant shall prepare a SPA Plan-level mitigation plan that incorporates

a redesign of the proposed development in the northern parcel, emphasizing a resource preserve design. Coordination with personnel from the U.S. Fish and Wildlife Service ("USFWS"), the Department of Fish and Game ("DFG"), the City of Chula Vista and the County of San Diego shall take place during preparation of this mitigation plan. The SPA Plan-level mitigation plan shall be prepared, analyzed and included in a Supplemental Environmental Impact Report ("EIR") for the applicant's SPA Plan. The City of Chula Vista, as the lead agency, shall retain final discretionary review and approval authority with respect to the mitigation plan and Supplemental EIR for the SPA Plan.

The SPA Plan-level mitigation plan shall not be approved prior to May 1, 1994 the date by which the South County Natural Community Conservation Plan ("NCCP") is anticipated to be adopted by the City of Chula Vista and approved by the DFG and USFWS. In the event that the South County NCCP is not adopted and approved by the City of Chula Vista, the DFG and USFWS on or before May 1, 1994, the project applicant and the City have agreed to pursue completion and approval of the South County NCCP beyond this expiration date; however, after the expiration date, the applicant may make a request to the Chula Vista City Council to consider allowing the applicant to proceed with a SPA-level mitigation plan. It is acknowledged that the foregoing time period relating to the SPA-level mitigation plan does not apply to or restrict the applicant's processing of a SPA Plan for the southern parcel.

It is further acknowledged that:

- a) The SPA Plan-level mitigation plan and the South County Natural Community Conservation Plan are not necessary or required for the northern parcel or any other subsequent discretionary project approval in the event the northern parcel is subsequently dedicated as permanent open space or included in a mitigation bank.
- b) The SPA Plan-level mitigation plan shall be considered prior to annexation of the northern parcel into the Chula Vista corporate boundary.
- c) Preparation of the SPA Plan-level mitigation plan shall be a condition of approval of the San Miguel Ranch GDP, consistent with the criteria set forth below.

2. Criteria to be Used in Evaluating the Mitigation Plan

The South County NCCP, if completed and approved, may preclude development of the northern parcel, or may provide for different criteria and standards for the preservation and enhancement of on-site biological resources. If it does not, the criteria set forth below shall be used in creating the SPA Plan-level mitigation plan.

In preparing the SPA Plan-level mitigation plan, the project applicant shall use the guidelines set forth below as the applicable criteria for mitigating impacts to the identified

biological resources in the northern parcel. The following criteria shall constitute the minimum level of preservation required for the designated species in preparing the SPA Plan-level mitigation plan. The applicant also specifically acknowledges that the actual level of mitigation could be as much as 100 percent preservation for some species in order to achieve a finding that the impacts fall below a level of significance under CEQA and that the City may require this level of mitigation. This significance determination shall be made a part of the Supplemental EIR for the applicant's SPA Plan. The City of Chula Vista acknowledges that the State Department of Fish and Game may not find the criteria stated below to be acceptable at the SPA level.

(i) Diegan coastal sage scrub

Impacts to onsite coastal sage scrub cannot be mitigated with the project as proposed. Sensitive species that are a part of this habitat onsite include important populations of coast barrel cactus, Munz's sage, California gnatcatcher and cactus wren. These species are concentrated in the coastal sage scrub habitat designated for development under the project, as proposed. Any loss of coastal sage scrub shall require mitigation onsite through the creation of open space preserves at a mitigation ratio of 4:1, and subject to a long term maintenance and management program. Of the Northern parcel, no more than 15% of the on-site coastal sage scrub shall be impacted by development and at least 85% shall be used for provision of on-site mitigation or for mitigation purposes by others. This measure will reduce, but not completely avoid, significant and unmitigable impacts. Reduction to insignificance can only be attained through onsite preservation of all coastal sage scrub on the northern parcel. While the range of potential on-site and off-site mitigation measures is greater than that proposed for the southern parcel, it is justified by the greater biodiversity on the northern parcel, which makes this area a much more important regional location for Diegan coastal sage scrub habitat. Mitigation at the SPA level will be required to include preserve design criteria.

(ii) Wetlands

Impacts to wetlands cannot be mitigated with the project as proposed. The wetlands occur within the site drainages of the north parcel. At the GDP review level, the worst case scenario for impacts was assumed within large lot development areas in the northern parcel which included the assumption that each entire lot would be impacted by development. The Draft EIR specifically notes that impacts in the northern parcel can be reduced significantly, and that impacts must be

avoided to the extent practicable. The reduction of impacts would occur during the SPA Plan review level, and any impacts may require a 1603 agreement and possibly a 404 permit. Mitigation at the SPA level will be required to include preserve design criteria. Until these minimization measures are resolved at the SPA level, a specific revegetation plan cannot yet be developed.

The recommended mitigation replacement ratio is a minimum of 1:1. This ratio is based upon the generally low to moderate quality of wetland habitats being impacted, and is not inconsistent with acceptable mitigation measures for impacts to similar quality wetlands in southern California. The ratio is considered the minimum to meet the "no net loss" criteria for both federal and state reviewing agencies.

(iii) Non-native grassland

See below for mitigation criteria relating to Palmer's grappling hook and Otay tarplant.

(iv) California gnatcatcher

Impacts to the California gnatcatcher cannot be mitigated with the project as proposed. Mitigation for losses of the California gnatcatcher can be accomplished only through dedication of important tracts of the species' habitat into natural open space. These tracts must be linked in a network to allow for the birds' dispersal, maintenance of populations sufficiently large to be self-sustaining, and population recovery after the fires which inevitably sweep through native scrub. Because Rancho San Miguel is a major part of a core habitat, reductions to below a level of significance can be accomplished only through a project redesign that leaves a significant majority of the pairs and their habitat in natural open space. Any losses of existing pairs, occupied gnatcatcher habitat, or unoccupied potential breeding gnatcatcher habitat shall require mitigation onsite through the creation of permanent open space preserves at a preservation ratio of 2:1, and subject to a long term maintenance and management program. Of the northern parcel, no more than 20% of the existing pairs, 20% of the occupied gnatcatcher habitat, and 50% of the unoccupied potential breeding gnatcatcher habitat shall be impacted by development. At least 80% of the existing pairs, 80% of the occupied gnatcatcher habitat, and 50% of

the unoccupied potential breeding gnatcatcher habitat shall be used for the provision of on-site mitigation or for mitigation purposes by others. Mitigation at the SPA level will be required to include preserve design criteria. This measure will reduce, but not completely avoid, significant and unmitigable biological impacts. Reduction to insignificance can only be attained through onsite preservation of all existing pairs, occupied gnatcatcher habitat, and unoccupied potential breeding gnatcatcher habitat on the northern parcel. While this mitigation ratio of 2:1 is greater than that proposed for the southern parcel, it is justified by the greater biodiversity on the northern parcel, which makes this area a much more important regional location for California gnatcatchers.

(v) Cactus wren

Impacts to the cactus wren cannot be mitigated with the project as proposed. To reduce, but not completely avoid significant and unmitigable impacts, the project must be redesigned to impact no more than one pair of cactus wren. All remaining occupied cactus thickets containing six pairs of cactus wrens shall be placed within contiguous biological open space. In addition, cactus stands which are to be impacted by the project will be transplanted to expand and enhance the cactus wren populations in areas adjacent to existing populations in the north. To determine the appropriate mitigation area, a qualified biologist shall monitor the activity patterns of the impacted cactus wren and in the remaining territories in the north to determine boundaries of the home ranges and to characterize the important elements of home range usage. Subsequent to the restoration, the mitigation area shall be monitored for a period of five years to ensure successful establishment of the habitat. Existing occupied thickets lie in the west central and north portions of the north section. Mitigation at the SPA level will be required to include preserve design criteria.

(vi) Otay tarplant

Loss of such a large population of Otay tarplant cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, a minimum of 80% of this plant species should be retained in open space, including the areas supporting the largest number of Otay tarplant. For impacts which go beyond the 20% recommended above, a vegetation/

restoration program could be implemented which would examine the potential for re-introducing this species into disturbed areas within proposed open space for the project. Any restoration efforts would require working closely with the CDFG. A minimum of 65% of the Otay tarplant shall be retained in situ in open space, even if a restoration program is implemented. Such a redesign would reduce impacts to this species to below a level of significance. No revegetation or restoration of the Otay tarplant should be considered as a mitigation option until it can be demonstrated that such measures will produce long term populations. Mitigation at the SPA level will be required to include preserve design criteria.

Regardless of the final preserve design for the Otay tarplant, the two populations of 10,000 and 2,000 plants required to be preserved as part of the Southern Mitigation Plan shall remain within the preserve area for the Northern Mitigation Plan and will be included within the plant count in order to ensure a minimum of 65% of the Otay Tarplant is retained in situ in open space. An additional 15% shall be retained either in situ or as part of an Otay tarplant restoration plan. This will result in onsite preservation of at least 80% of the Otay tarplant for the Northern Parcel. Assuming a 24,000 plant count in the north, a preservation level of 65% would require 15,600 plants to be preserved insitu, and after allowing for the 12,000 plants previously committed, an additional 3,600 plants would need to be preserved in situ as part of the Northern Parcel mitigation plan.

(vii) Coast barrel cactus

Loss of such large populations of barrel cacti cannot be mitigated with the project as proposed. Therefore, if a significant adverse impact is to be avoided, the areas supporting the largest numbers of barrel cacti should be excluded from the development area. These areas are in the west-central and northwest parts of the north section. Project redesign to avoid these areas would reduce impacts to below a level of significance. A minimum preservation level of 60% in situ and transplantation of the remaining cacti to proposed open space areas onsite shall be required. Analysis of whether impacts are reduced to below a level of significance shall be undertaken prior to SPA review.

- Mitigation at the SPA level will be required to include preserve design criteria.
- (viii) Palmer's grappling hook Due to the preservation of virtually all Palmer's Grappling Hook on the northern parcel as partial mitigation for impacts to this species on the southern parcel, no further mitigation is necessary related to the northern parcel.
- (ix) California adolphia Significant impacts to this plant cannot be mitigated with the project as proposed. The loss of significant populations of this plant can be reduced only by excluding the important plant patches from the development area. The project should be redesigned to protect at least 50% in biological open space. Such redesign would reduce impacts to below a level of significance. Mitigation at the SPA level will be required to include preserve design criteria.
- (x) Marsh elder Wetlands onsite should be avoided to the extent practicable. Mitigation at the SPA level will be required to include preserve design criteria. Unavoidable impacts could be mitigated through a revegetation program.
- (xi) Spiny rush Wetlands onsite should be avoided to the extent practicable. Unavoidable impacts to spiny rush could be mitigated through enhancement of wetland areas to include revegetation of spiny rush. Mitigation at the SPA level will be required to include preserve design criteria.

3. Additional Mitigation Measures

In addition, the mitigation plan shall incorporate the following general mitigation measures to further reduce impacts to the identified biological resources upon implementation of a redesign of the northern parcel.

The potential loss or degradation of wetland habitat is considered significant by CDFG. Any filling of wetlands would require a 1603 agreement between the project applicant and CDFG. A pre-discharge Notification would have to be submitted to the Army Corps of Engineers (ACOE) if statutory thresholds are exceeded, and a 404 permit may be required.

A no net loss of wetland habitat is required by CDFG and ACOE. Impacts to wetlands must be avoided to the extent practicable. Impacts within the project can be

reduced by placement of wetlands occurring within proposed residential lots in open space easements and providing adequate buffers. Where impacts cannot be avoided, every effort should be made to minimize these impacts. All unavoidable impacts shall be mitigated by onsite creation of wetland habitat. Drainages that receive run-off from housing may be considered for the location of created wetlands. Minimization of impacts could be accomplished with a comprehensive program to replace and enhance wetland habitat under a wetland revegetation plan created by a wetland revegetation specialist and approved by CDFG and ACOE, if necessary, and the City of Chula Vista. Total created wetland would have to be at a replacement ratio of a minimum of 1:1.

Graded areas along roadways shall be hydroseeded with native plant species consistent with surrounding natural vegetation. This would help to minimize erosion and runoff, as well as improve the area aesthetically by making it visually compatible with adjacent natural areas. As part of this effort, a revegetation plan shall be developed with the help of a revegetation specialist with experience in coastal sage scrub and similar habitats. The Revegetation Plan shall be prepared by the applicant and a qualified biologist.

The use of non-invasive plants in landscaping areas adjacent to open space will be required for all areas outside of actual lot boundaries. Additionally, homeowners will be encouraged to use non-invasive species in their landscaping adjacent to open space.

Iceplant (*Carpobrotus aequilatus* or *C. edulis*) shall not be used in lieu of fire-resistant native revegetation due to the slope failures associated with it. Importation of this plant introduces fire ants, which are known to reduce native harvester ant population through competition and displacement. In addition, fire ants are unpalatable to the San Diego horned lizard and their introduction would reduce horned lizard populations.

Grading activities within 100 feet of areas of identified California gnatcatcher pairs, or their associated coastal sage scrub habitat, shall not be conducted during the breeding or nesting season (mid-March through July annually). Grading activities shall be supervised by a biologist.

Site preparation activities, especially staging area operations and maintenance rows for heavy machinery, shall be restricted to areas not being placed in open space. Carelessness on the part of equipment operators can result in the destruction of areas that have been designated for preservation. Areas adjacent to open space shall be fenced. A debris fence shall be installed prior to excavation in areas where grading is up-slope of sensitive biological habitats. These recommendations should be incorporated into a construction monitoring program approved by the City of Chula Vista.

Compliance with state regulations (California AB 3180) requiring monitoring programs for development projects would require satisfaction of the following two objectives:

1. The final site plan must be reviewed by a qualified biologist for the

City of Chula Vista and by CDFG for compliance with these mitigation measures and must also be approved by the City Council, upon recommendation of the Planning Commission, in conjunction with the Sectional Planning Area (SPA) Plan.

2. Each phase of project implementation must be reviewed by a qualified biologist for compliance with the mitigation measures required for that phase, and a report must be filed prior to notice of completion.

4. NCCP Requirement

The mitigation plan shall be consistent with the sub-regional Natural Communities Conservation Planning Program (NCCP) for Coastal Sage Scrub in southern San Diego County, otherwise known as the South County NCCP, unless the applicant is granted permission by the City Council to proceed with the SPA-level mitigation plan pursuant to the procedure established in Section 1 above (after May 1, 1994).

The project applicant, the City of Chula Vista and the County of San Diego have each entered into "Enrollment Agreements" with the DFG for the South County NCCP Plan. This Plan, which is authorized by state law (Fish and Game Code subsection 2800 et seq.), is sponsored by the California Resources Agency and the DFG and will be implemented in cooperation with the USFWS. Close cooperation between the three agencies in the NCCP process is ensured through a Memorandum of Understanding entered into between the agencies on December 4, 1991.

The South County NCCP Plan is intended to identify and provide for the sub-regional protection and perpetuation of coastal sage scrub habitat and designated "target" species supported by that habitat while, at the same time, allowing compatible and appropriate development and growth, as set forth in Section 2805 of the Fish and Game Code. The purpose of enrolling in this plan is to: (a) complete the field surveys, research and planning necessary to prepare a long-term habitat management plan within the designated preserve area; and (b) protect enrolled coastal sage scrub habitat during the 18-month planning period for the plan, which began on May 1, 1992.

The South County NCCP Plan is also intended to be consistent with the findings and declarations contained in the enabling legislation. These findings declare that the NCCP process will achieve a number of significant public benefits, including: (a) promoting coordination and cooperation among public agencies, landowners and other private interests; (b) providing a mechanism for landowners and development proponents to effectively participate in the resource conservation planning process; (c) providing regional planning focus which can effectively address cumulative impact concerns, minimize wildlife habitat fragmentation and promote multiple species management and conservation; (d) providing an option for identifying and ensuring appropriate mitigation for impacts on fish and wildlife; (e) promoting the conservation of broad based natural communities and species diversity; and (f) providing for efficient use and protection of natural and economic resources while

promoting greater public awareness of important elements of the state's critical resources.

To implement these legislative findings, the planning process will focus on preparation and approval of the South County NCCP plan to ensure the long-term protection and perpetuation of sufficient amount of coastal sage scrub habitat within a designated preserve area to ensure the long-term survival of designated "target" species associated with that habitat. The target species for coastal sage scrub include the California gnatcatcher, cactus wren and orange-throated whiptail.

The applicant has already completed biological field surveys and is continuing to study the northern parcel as required by the Scientific Review Panel (SRP), which was formed in connection with the recently enacted NCCP legislation. Any additional biological field surveying will be consistent with those guidelines to be applied to the property and approved by the SRP.

The South County NCCP Plan will include the following components: (a) a sub-regional habitat description and analysis (with clearly mapped boundaries); (b) defined preserve areas; (c) long-term conservation and management strategies; and (d) techniques for implementation of coastal sage scrub habitat protection measures, including a mitigation monitoring program that complies with CEQA.

The City of Chula Vista shall review the approved South County NCCP Plan as it applies to the applicant's northern parcel concurrent with its approval of the SPA Plan for the Northern Parcel. During that review process, the City will consult with the County of San Diego, State Department of Fish & Game (DFG) and U.S. Fish & Wildlife Service (USFWS) to the extent that the approved NCCP provides for such review. The City Council shall make the final determination that the proposed SPA plan for the Northern Parcel is consistent with the approved South County NCCP.

The review and final approval process for the South County NCCP Plan is anticipated to take place within a 24-month NCCP planning period, which commenced on May 1, 1992 and expires on May 1, 1994. After the expiration date, the applicant may make a request to the Chula Vista City Council to consider allowing the applicant to proceed with the SPA-level mitigation plan.

ANALYSIS OF SIGNIFICANCE

Impacts to biology are significant and not mitigable for the entire project as proposed. The impacts of the project upon overall biodiversity for this site, which is richly endowed with natural biological resources, are significant and not mitigable.

At the GDP review level, impacts to the biological resources on the southern parcel shall be construed as significant and unmitigated specifically for impacts to Otay Tarplant and Palmer's Grappling Hook. However, at the SPA Plan level, the City will make a subsequent CEQA "significance" determination as to whether the southern mitigation plan reduces impacts to biological resources to below a level of significance. It is anticipated that

the impacts to biological resources on the southern parcel will be mitigated to below a level of significance, with the exception of impacts to the Otay Tarplant and Palmer's Grappling Hook, if all of the following requirements are met; (a) the criteria set forth in the southern mitigation plan are satisfied at the SPA plan level; (b) no substantial changes have occurred to the project or its circumstances since the GDP level (Guidelines #15162(a)(1)(2); and (c) no significant new information has arisen since the GDP level (Guidelines #15162(a)(3).

Until the mitigation plan for the northern parcel is fully completed, and until that plan is incorporated and analyzed in a Supplemental EIR for the applicant's northern SPA Plan, the proposed development of the northern parcel shall be construed as resulting in significant, unmitigated impacts to the identified biological resources. At the SPA Plan review level, a subsequent CEQA "significance" determination shall be made as to whether the redesign of the Northern Parcel would result in mitigating impacts to the identified biological resources to below a level of significance. If the criteria is not met at the SPA Plan level, the impacts will remain significant.

3.10 TRANSPORTATION/ACCESS

Existing Conditions

Regional access to the study area is currently provided by Interstate 805 in a north/south direction and by Bonita Road, San Miguel Road, and East H Street in an east/west direction. Future north/south access will be provided by State Route 125. The final alignment of this road will not be determined until early 1993 (Garcia 1990). Access to the project site is off East H Street and San Miguel Road. Interim access issues surrounding this project must be addressed in Sectional Planning Area (SPA) level EIR documents to be prepared in the future. This section of the Supplement is based on a traffic technical report prepared by JHK & Associates (1991) which is included as Appendix E in Volume 2 to Draft EIR 90-02.

See
Errata
for
Changes

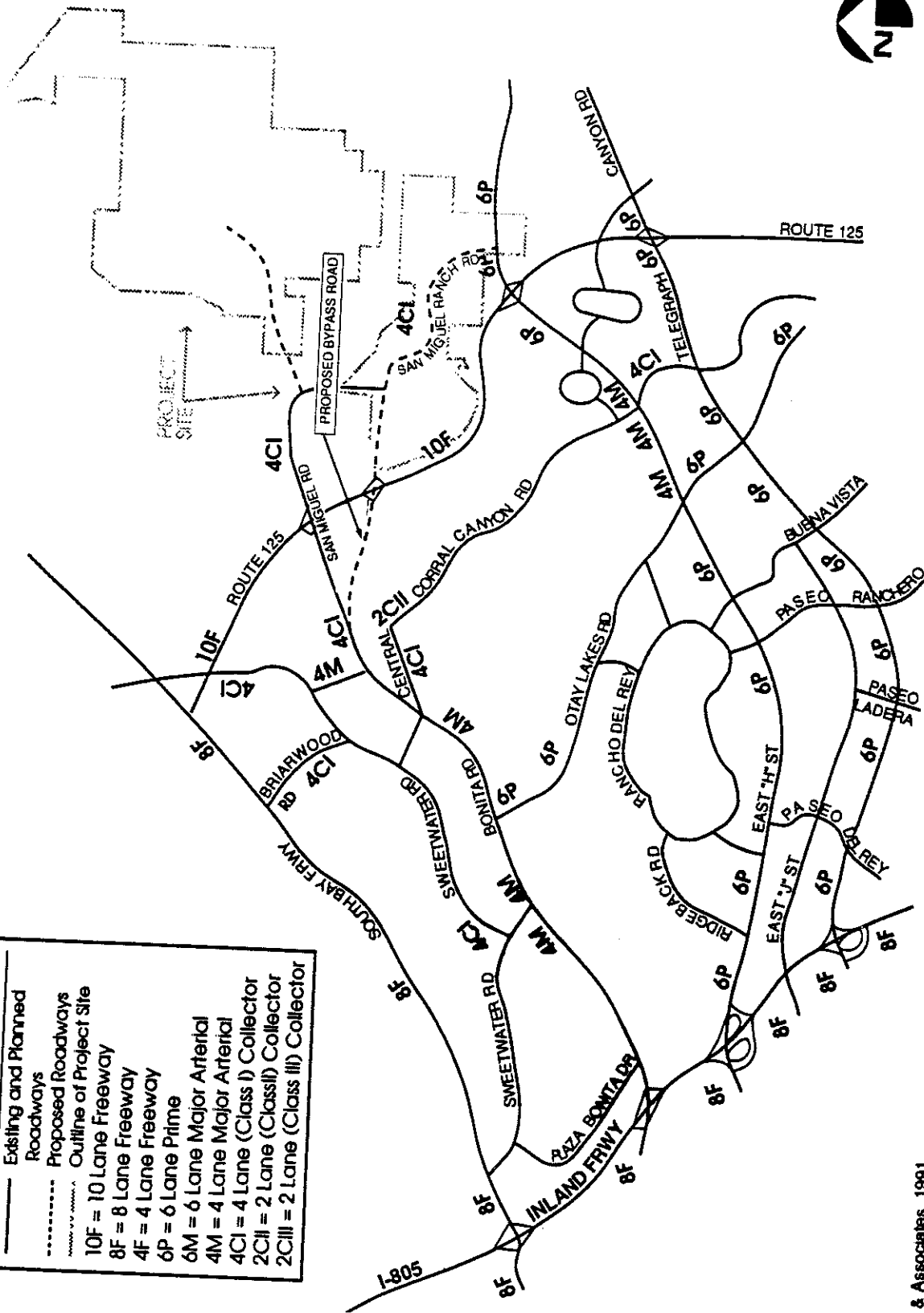
The majority of the study area roadways are under San Diego County's jurisdiction, and consist primarily of two-lane highways. East H Street and San Miguel Road and the realigned portion of Proctor Valley Road through the Salt Creek I Subdivision provide paved access to the southern portion. The eastern segment of San Miguel Road is currently a two-lane light collector, which is the designation under the County's Circulation Element. The road currently is narrow and without curbs for most its length.

Proctor Valley Road to the west and south of the project area provides access as well, but is a dirt road for most of its length, and is recognized as a public unimproved County maintained road. Bonita Road is classified as a four-lane major street under the County's Circulation Element.

Many of the roadways in the study area within Chula Vista's jurisdiction have been improved to high capacity arterial facilities, designed to accommodate the increase in traffic demand anticipated as the result of recent growth in the Eastern Territories. Most of the roadways under Chula Vista's jurisdiction in the study area are classified as major or collector facilities, with the exception of East H Street and Telegraph Canyon Road, which are classified as six-lane prime facilities for the year 1990 base conditions. Many of the City's roadways surrounding the proposed project site are currently under construction according to buildout configuration recommended in the Chula Vista General Plan (Figure 3.10-1). In the Chula Vista General Plan, San Miguel Road is designated as a four-lane collector. Both the County and City General Plans anticipate major improvements to key arterials such as East H Street, and Otay Lakes Road. A summary of daily traffic volumes along roadway principal segments is shown in Figure 3.10-2.

LEGEND

- Existing and Planned Roadways
- Proposed Roadways
- Outline of Project Site
- 10F = 10 Lane Freeway
- 8F = 8 Lane Freeway
- 4F = 4 Lane Freeway
- 6P = 6 Lane Prime
- 6M = 6 Lane Major Arterial
- 4M = 4 Lane Major Arterial
- 4CI = 4 Lane (Class I) Collector
- 2CII = 2 Lane (Class II) Collector
- 2CIII = 2 Lane (Class III) Collector



SOURCE: JHK & Associates, 1991.



Adopted Chula Vista General Plan Roadway Designation

FIGURE

3.10-1

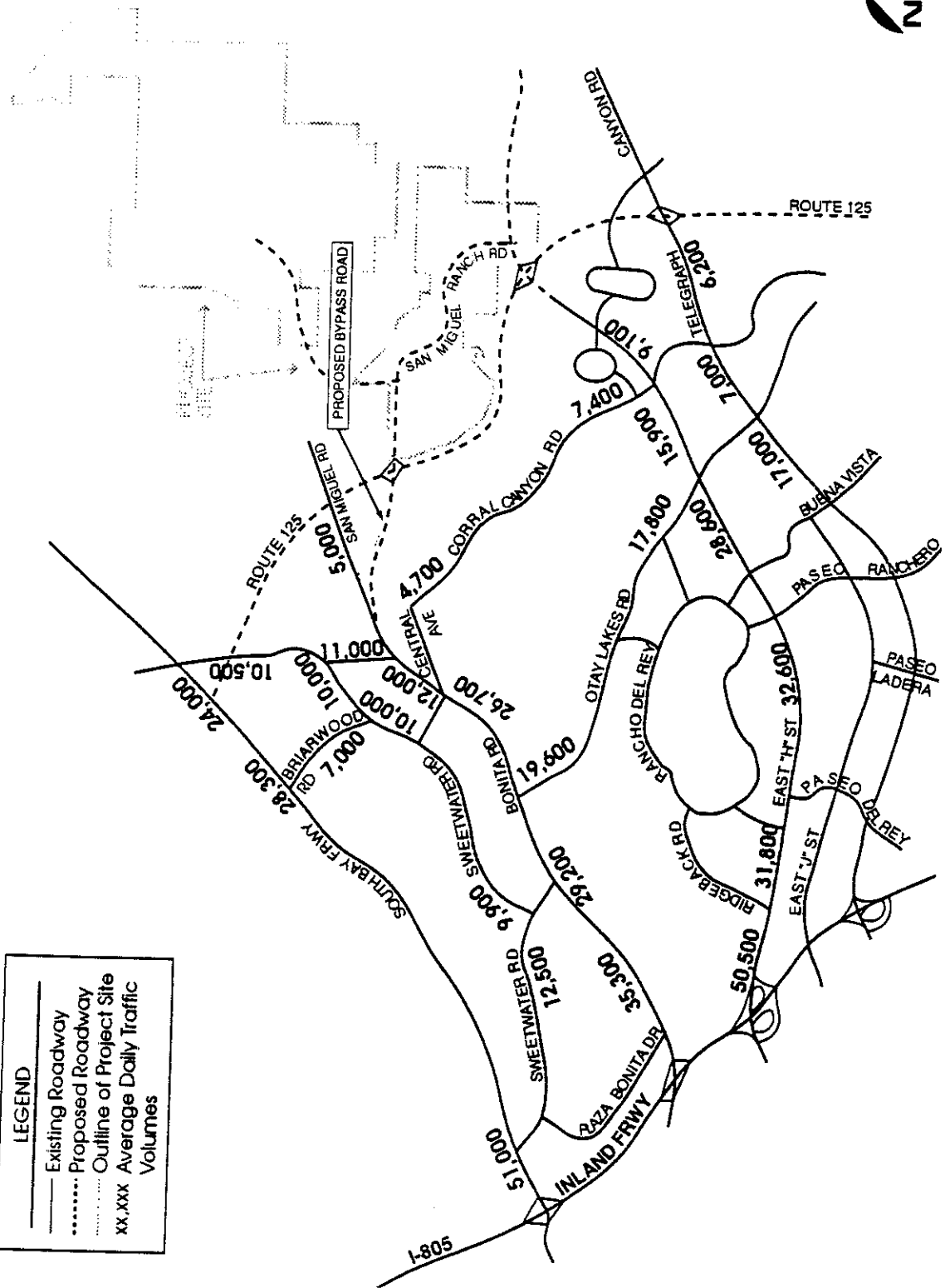
LEGEND

Existing Roadway

Proposed Roadway

Outline of Project Site

xx,xxx Average Daily Traffic Volumes



SOURCE: JHK & Associates, 1991.



Existing Traffic Volumes / Year 1990

FIGURE

3.10-2

The Chula Vista General Plan Circulation Element (1989) describes desirable service levels that measure the performance of a roadway or intersection in terms of delay or congestion. Levels of service (LOS) are determined by comparing the demand volume on a particular facility to the design capacity of the facility. A level of service C has been selected by the City of Chula Vista as the standard for all circulation element facilities. Table 3.10-1 summarizes existing Year 1990 daily traffic volumes and desired roadway segment capacities for facilities in the project study area. This table also indicates the current operating condition for each segment, expressed as either "under capacity" or "over capacity," for existing volume conditions. Currently, three facilities in the study area experience operational difficulties due to high volume-to-capacity ratios. These facilities include those segments of Sweetwater Road and East H Street located immediately east of I-805, and Bonita Road from I-805 to Central Avenue.

Impacts

Project Traffic

The Rancho San Miguel project proposes a maximum of 1,619 single-family residential units, which will generate a population of approximately 5,789 persons. The GDP further proposes a commercial center, a conference center/retreat and inn, and an interpretive center. All of the above uses will generate traffic in the project area.

The internal road network for the proposed project is illustrated in Plate 1 of Volume 1. East H Street and San Miguel Road and the realigned portion of Proctor Valley Road through the Salt Creek I subdivision provide paved public street access to the southern portion of the site. San Miguel Road provides paved access to the northern portion. The project applicant is proposing to develop a bypass road through County land from Bonita Road to the project site (to be named San Miguel Ranch Road) to provide primary site access from the west. San Miguel Ranch Road would begin at Bonita Road as a four-lane collector to SR 125. From SR 125 to its terminus at East H Street, San Miguel Ranch Road would be designated as a four-lane major roadway. Implementation of the proposed bypass road would eliminate the need to widen existing San Miguel Road to accommodate project traffic, and would also eliminate the need to continue San Miguel Road into the project site (see Figure 2-3). Development of the portion of the proposed bypass road between Bonita Road and SR 125 will require County approval in an amendment to the County's Circulation Element as discussed in page 3.10-20. Although widening San Miguel Road would be consistent with the City's General Plan, this would also require an amendment to the County's Circulation Element.

Table 3.10-1

EXISTING YEAR 1990 SEGMENT LEVELS OF SERVICE

See
Errata
for
Changes

Segment	Existing Daily Traffic Volumes	Planning Level Design Capacity (LOS C ¹)	Ratio of Existing Traffic to Planning Level Capacity	Existing Segment Operations ²
<u>BONITA ROAD</u>				
Plaza Bonita to Willow	35,300	30,000	1.18	Over Capacity
Willow to Otay Lakes	29,200	22,000	1.33	Over Capacity
Otay Lakes to Central	26,700	22,000	1.21	Over Capacity
Central to San Miguel	12,000	22,000	0.55	Under Capacity
San Miguel to Sweetwater	11,000	22,000	0.50	Under Capacity
<u>CORRAL CANYON ROAD</u>				
Central to Blacksmith	4,700	12,000	0.39	Under Capacity
Coltridge to East H Street	7,400	12,000	0.62	Under Capacity
<u>EAST H STREET</u>				
I-805 to Ridgeback	50,500	50,000	1.01	Over Capacity
Ridgeback to Paseo Del Rey	31,800	50,000	0.64	Under Capacity
Paseo del Rey to Buena Vista	32,600	50,000	0.65	Under Capacity
Buena Vista to Otay Lakes	28,600	50,000	0.57	Under Capacity
Otay Lakes to Rutgers	15,900	30,000	0.53	Under Capacity
Rutgers to East Lake Drive	9,100	30,000	0.30	Under Capacity
<u>OTAY LAKES ROAD</u>				
Bonita to Canyon	19,600	30,000	0.65	Under Capacity
Canyon to East H Street	17,800	30,000	0.59	Under Capacity
<u>SAN MIGUEL ROAD</u>				
Bonita to Proctor Valley Road	5,000	22,000	0.23	Under Capacity
<u>SWEETWATER ROAD</u>				
Plaza Bonita to Willow	12,500	12,000	1.04	Over Capacity
Willow to Bonita	9,900	12,000	0.82	Under Capacity
Central to Briarwood	10,000	22,000	0.45	Under Capacity
Briarwood to Bonita	10,000	22,000	0.45	Under Capacity
Bonita to SR54	10,500	22,000	0.48	Under Capacity
<u>BRIARWOOD ROAD</u>				
SR54 to Sweetwater	7,000	22,000	0.32	Under Capacity
<u>TELEGRAPH CANYON ROAD</u>				
Buena Vista to Otay Lakes	17,000	50,000	0.34	Under Capacity
Otay Lakes to Rutgers	7,000	50,000	0.14	Under Capacity
Rutgers to SR125	6,200	50,000	0.12	Under Capacity

Table 3.10-1 (Continued)

EXISTING YEAR 1990 SEGMENT LEVELS OF SERVICE

Segment	Existing Daily Traffic Volumes	Planning Level Design Capacity (LOS C) ¹	Ratio of Existing Traffic to Planning Level Capacity	Existing Segment Operations ²
SR54				
I-805 to Reo	51,000	65,280	0.78	Under Capacity
Reo to Briarwood	28,300	30,000	0.94	Under Capacity
Briarwood to Sweetwater	24,000	30,000	0.80	Under Capacity

Source: JHK & Associates, 1991

Notes: 1. The City of Chula Vista currently plans for LOS C operating conditions as a minimum for all Circulation Element facilities. However, the Growth Management Plan Threshold Standard requires that signalized intersections operate at or above LOS D (LOS D not to exceed a total of two hours per day). Thus, segment levels of service may exceed LOS C while intersection operations must still adhere to the Threshold Standards.

2. Roadway operations are rated as "under capacity" or "over capacity" in relation to the City's minimum standards. An "under capacity" rating corresponds to levels of service A through C, while an "over capacity" rating corresponds to levels of service D through F.

The conceptual land use plan and the number of trip ends generated from the project site are given in Table 3.10-2. This information is compared to land uses that were assumed to occur for the project site under the Chula Vista General Plan. The total Average Daily Trips (ADT) for the project as proposed is 29,635 ADT. The ADT is 25,670 for the projects as assigned under the Chula Vista General Plan. The difference of 3,965 ADT is attributed to the change in trip generation rates for the commercial center. Previous SANDAG studies utilized a commercial center rate of 500 trips per day. The rate was revised to 700 trips per day because more detailed trip generation information is now available on commercial developments in the San Diego area. The traffic increases caused by the proposed project as compared to the Chula Vista General Plan assumptions for the project are, consequently, overstated. The SANDAG revised rates were used in the analysis herein, however, since this rate represents the best information currently available. The proposed project would represent only a two percent increase in ADT if the old trip generation rate was used. It should be noted that the trip generation rate for parks shown in Table 3.10-2 (5 trips/acre) can vary depending on the type of recreational facilities proposed. This trip generation rate should be evaluated further at the SPA level of analysis, when more detail on this project is available.

Project-generated trips were calculated and assigned to the street system based on the trip generation described above, and trip distribution analysis described in Appendix E of Volume 2 (Figure 3.10-3). More than half the trips will be distributed onto the proposed SR 125 since the majority of trips to the San Diego region north of Chula Vista and major employment areas to the south will utilize this roadway. The majority of the remaining project traffic is expected to be distributed on East H Street. The expected traffic forecasts for the area under buildout of the Chula Vista General Plan, including the proposed project, are given in Figure 3.10-4. As shown on Figure 3.10-3, only minimal project-related traffic (300 ADT) is expected to occur on San Miguel Road. The traffic ADT projected for San Miguel Road in Figure 3.10-4 is due to General Plan buildout conditions, not traffic related to the Rancho San Miguel project.

This analysis of future traffic conditions is based solely on buildout of the Chula Vista General Plan (including the proposed project); impacts associated with development of the Rancho San Miguel project in the interim time frame will be addressed in a subsequent traffic report to be prepared for the SPA submittal.

Table 3.10-2

**TRIP GENERATION COMPARISON
CHULA VISTA GENERAL PLAN TO PROPOSED PROJECT**

Land Use	Type Plan	General	Proposed	Rate Plan	General	Proposed
Residential	DU	1,866	1,619	10/DU	18,660	16,190
School	AC	0	11	40/AC	0	440
Park	AC	2	21	5/AC	10	105
Community Center (Current)	AC	0	17	700/AC	0	11,900
Community Center (Gen. Plan)	AC	14	0	500/AC	7,000	0
Conference Center	AC	0	7	50/AC	0	350
Interpretive Center	AC	0	6	50/AC	0	300
TOTAL					25,670	29,285

Source: JHK & Associates 1991

See Errata for Changes



Project Traffic Assignment

FIGURE

3.10-3



NO SCALE



ERCE

SOURCE: JHK & Associates, 1991.

Forecasted traffic volumes were compared to City standards for roadway operations in order to evaluate the need for roadway improvements to mitigate project traffic impacts. For each roadway segment, a determination was made as to whether the traffic level will be above or below the City's standard for traffic operations based on the roadway configuration shown in the updated Chula Vista General Plan. In addition, a volume to capacity (v/c) ratio was calculated by dividing the forecasted volume by the traffic threshold specified by the City's standards. It should be mentioned that the capacity of the roadway was determined for the lane configuration specified in the amended Chula Vista General Plan Circulation Element. These amendments to the original Circulation Element were necessary due to recent changes in land use assumptions for the Eastern Territories Area of the Chula Vista (e.g., EastLake II and III). As a result, several arterials, such as Telegraph Canyon Road and East H Street, were upgraded. The revisions identified in the EastLake III study and the final General Plan included upgrading Telegraph Canyon Road from SR125 to Hunte Parkway, to six-lane prime arterial. Table 3.10-3 documents future levels of service for all study roadway segments based on the functional roadway classifications recommended in the Final Chula Vista General Plan Circulation Element (with EastLake III amendments). Segment analysis was based on each of the scenarios described below:

Scenario 1 Final General Plan Traffic Assignment with the Rancho San Miguel project as assumed under the Chula Vista General Plan

Scenario 2 Modified General Plan Traffic Assignment (with the Rancho San Miguel project as proposed)

For the purpose of this buildout traffic analysis, it was determined by the City that the review of peak hour impacts at major signalized intersections within the project study area would not be necessary. Rather, this detailed analysis of future intersection operations and geometric requirements will occur at the SPA level.

Future levels of service for three roadway segments will be above the City's standard for traffic operations based on roadway classifications recommended in the final General Plan Circulation Element (refer to Table 3.10-3). The segment of East H Street between SR 125 and San Miguel Road is forecasted to operate at LOS D with 50,800 ADT. This forecasted volume projection under the proposed project is only 800 vehicles per day over the threshold LOS C capacity of 50,000 ADT for a six-lane prime. This represents less than a 2 percent exceedance of capacity, and does not warrant redesignation of the road to the next highest functional class, which would be Six-Lane Expressway. Thus, no change in the adopted functional classification for this segment of road as designated by the Chula Vista General Plan is necessary due to this minor exceedance.

A similar situation exists along Bonita Road from Central to San Miguel Road and from San Miguel Road to Sweetwater Road. In each of these cases, the exceedance is minor. The overall conclusion of the JHK analysis is that implementation of the project will add only minor traffic increases compared to the land uses proposed by the updated General Plan. Therefore, no significant impacts are identified for the minor exceedance of Table

Table 3.10-3

**DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT**

<u>Segment</u>	<u>General Plan Circulation Element Functional Classification</u>	<u>General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions</u>	<u>General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions</u>
<u>BONITA ROAD</u>			
Plaza Bonita to Willow	Four-Lane Major	38,100/1.27/Over	38,300/1.28/Over
Willow to Otay Lakes	Four-Lane Major	36,900/1.23/Over	37,000/1.23/Over
Otay Lakes to Central	Four-Lane Major	27,100/0.90/Under	29,000/0.97/Under
Central to San Miguel	Class I Collector	21,200/0.96/Under	22,900/1.04/Over
San Miguel to Sweetwater	Class I Collector	20,900/0.95/Under	22,600/1.03/Over
<u>CORRAL CANYON RD.</u>			
Central to Blacksmith	Class II Collector	9,100/0.76/Under	9,100/0.76/Under
Coltridge to East H Street	Class II Collector	11,400/0.95/Under	11,800/0.98/Under
<u>EAST H STREET</u>			
I-805 to Ridgeback	Six-Lane Prime	59,900/1.20/Over	60,200/1.20/Over
Ridgeback to Paseo del Rey	Six-Lane Prime	30,300/0.61/Under	31,900/0.64/Under
Paseo del Rey to Buena Vista	Six-Lane Prime	27,100/0.54/Under	29,600/0.59/Under
Buena Vista to Otay Lakes	Six-Lane Prime	29,100/0.58/Under	31,500/0.63/Under
Otay Lakes to Rutgers	Four-Lane Major	17,700/0.59/Under	20,100/0.67/Under

Table 3.10-3 (Continued)

DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT

Segment	General Plan Circulation Element Functional Classification	General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions	General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions
<u>EAST H STREET (cont.)</u>			
Rutgers to SR125	Four-Lane Major	26,600/0.89/Under	27,500/0.92/Under
SR125 to San Miguel	Six-Lane Prime	49,300/0.99/Under	50,800/1.02/Over
San Miguel to Hunte	Six-Lane Prime	34,300/0.69/Under	34,600/0.69/Under
<u>OTAY LAKES ROAD</u>			
Bonita to Canyon	Six-Lane Prime	32,400/0.65/Under	34,600/0.69/Under
Canyon to East H St.	Six-Lane Prime	34,000/0.68/Under	36,900/0.74/Under
<u>SAN MIGUEL CONNECTOR ROAD (SAN MIGUEL RANCH ROAD)</u>			
Bonita to SR 125	Class I Collector	1,000/0.05/Under	8,700/0.39/Under
SR125 to Project Access Rd.	Four-Lane Major	1,000/0.03/Under	9,500/0.32/Under
Project Access Rd. to East H St.	Four-Lane Major	15,900/0.53/Under	17,500/0.58/Under
<u>SR 125</u>			
SR 54 to San Miguel	Ten-Lane Freeway	196,000/1.20/Over	196,400/1.20/Over
San Miguel to East H St.	Ten-Lane Freeway	183,500/1.12/Over	185,600/1.14/Over
East H St. to Telegraph Cy Rd	Ten-Lane Freeway	169,600/1.04/Over	169,300/1.04/Over

Table 3.10-3 (Continued)

**DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT**

Segment	General Plan Circulation Element Functional Classification	General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions	General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions
<u>SWEETWATER ROAD</u>			
Plaza Bonita to Willow	Class I Collector	11,100/0.50/Under	11,100/0.50/Under
Willow to Bonita	Class I Collector	9,200/0.42/Under	9,200/0.42/Under
Central to Briarwood	Class I Collector	9,300/0.42 Under	9,300/0.42/Under
Briarwood to Bonita	Class I Collector	2,200/0.10/Under	2,200/0.10/Under
Bonita to SR 54	Class I Collector	19,900/0.90/Under	21,500/0.98 Under
<u>BRIARWOOD ROAD</u>			
SR 54 to Sweetwater	Class I Collector	25,000/1.14/Over	25,600/1.16/Over
<u>SR-54</u>			
I-805 to Reo	Eight-Lane Freeway	148,100/1.13/Over	149,200/1.14/Over
Reo to Briarwood	Eight-Lane Freeway	124,200/0.95/Under	125,300/0.96/Under
Briarwood to Sweetwater	Eight-Lane Freeway	252,200/1.93/Over	254,500/1.95/Over
<u>SAN MIGUEL ROAD</u>			
San Miguel Connector Rd. to SR 125	Class I Collector	12,500/0.57/Under	7,000/0.33/Under
SR 125 to Project Boundary	Class I Collector	12,000/0.55/Under	6,500/0.30/Under

Table 3.10-3 (Continued)

**DAILY TRAFFIC VOLUMES AND SEGMENT LEVEL OF SERVICE
COMPARISON OF GENERAL PLAN VERSUS
GENERAL PLAN PLUS PROPOSED PROJECT**

Segment	General Plan Circulation Element Functional Classification	General Plan Traffic Assignment ADT/Volume to Planning Capacity Ratio/ Operating Conditions	General Plan Traffic Assignment with Proposed Project Distribution ADT/Volume to Planning Capacity Ratio/ Operating Conditions
<u>PROJECT ACCESS ROAD</u>			
North of San Miguel Connector Rd.	Class II Collector	4,000/0.33/Under	4,700/0.27/Under
<u>TELEGRAPH CANYON ROAD</u>			
Buena Vista to Otay Lakes	Six-Lane Prime	16,800/0.34/Under	18,900/0.38/Under
Otay Lakes to Rutgers	Six-Lane Prime	29,300/0.59/Under	32,500/0.65/Under
Rutgers to SR125	Six-Lane Prime	29,100/0.58/Under	32,400/0.65/Under

Source: JHK & Associates, 1991

roadway segment capacities. The remainder of the roadway segments would be under capacity at General Plan buildout with the project as proposed.

The proposed project does not identify the functional classifications of roads that are to be constructed to serve the project. Since these roads are not included in the final General Plan Circulation Element, their functional classification has not been determined, and the impacts are considered to be significant.

State Route 125

State Route (SR) 125 is envisioned as a north-south link between the international border crossing at Otay Mesa and I-15 north of Poway. The portion near the Rancho San Miguel development is one of four toll revenue transportation project demonstration programs arising from California's AB 680 program. The proposed toll road would lie between the border crossing and SR-54 near Bonita. California Transportation Ventures, Inc. (CTV), is a company created specifically to develop the toll portion of SR 125. The corporation consists of a partnership with Parsons Brinckerhoff Development Group, Inc.; Fluor Daniel, Inc.; Transroute; and Prudential-Bache Capital Funding. CTV proposes to build, transfer to Caltrans, and operate this toll road. The road would initially be a 4-lane toll highway roughly 76 feet wide, with 2 northbound and 2 southbound lanes. Opening is envisioned for 1996. Ultimately, the highway would be approximately 178 feet wide, with 4 northbound and 4 southbound lanes, plus a center set of lanes for high occupancy vehicle or light rail transit.

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Seven alternatives are being examined for the portion of SR 125 which would pass the Rancho San Miguel area. These are shown in Figure 3 10-5. Three of the possible alignments affect the proposed Rancho San Miguel development:

- Substation (W5), which passes through the eastern side of the southern portion of Rancho San Miguel, then swings westward, crossing north of the SDG&E Miguel Substation and passing through the southwestern corner of the northern portion of the development (see also Figure 5-4).
- Proctor Valley East (W6), which passes diagonally across the western half of the southern portion of the development (see also Figure 5-5).
- Proctor Valley West, which curves along the western perimeter of the southern portion. This alignment is generally consistent with the adopted Chula Vista General Plan, and has been assumed by the developer for the Rancho San Miguel GDP. The Proctor Valley West alignment could continue north of San Miguel Road along several different alignments, including Conduit Road West (W4) and Sweetwater Park (W2). Another possibility is the golf course alignment (W1), which would run northwestward through Bonita Golf Course.

The remaining four alternatives, W-2, W-4, W-4A, and W-1 are planned west of the southern portion of the Rancho San Miguel Road, and therefore would not conflict

with proposed land uses within the site. The four alternative alignments cross San Miguel Road in a northwest to southeast direction, through the Bonita Golf Course. They are located south of the Sweetwater Regional Park and end just south of Highway 54.

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Caltrans is also considering eastern alignments for SR125, illustrated in new Figure A. These alignments are described briefly below, based on draft information from Caltrans.

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Mother Miguel Mountain Alternative. The Mother Miguel Mountain Alternative diverges from the East Lake Alternative near East "H" Street. It proceeds north and crosses the Otay River. At EastLake Parkway, it turns northeasterly, climbing through the pass between Mother Miguel Mountain and San Miguel Mountain. It then descends and crosses the Sweetwater River, joining the Sweetwater Reservoir and Sweetwater Springs Alternatives (described below). These alternatives parallel Jamacha Boulevard and Sweetwater Springs Blvd. The termination point is the junction with the Route 94 Freeway.

Sweetwater Reservoir Alternative. The Sweetwater Reservoir Alternative diverges from the Mother Miguel Mountain Alternative at EastLake Parkway. It proceeds north and crosses the Sweetwater River. It then curves easterly, sharing the same alignment as the proposed Route 54 Freeway. It joins the Sweetwater Springs Alternative and parallels Sweetwater Springs Boulevard to its termination point at the Route 94 Freeway.

Sweetwater Springs Alternative. The Sweetwater Springs Alternative diverges from the Mother Miguel Mountain Alternative near the pass between Mother Miguel Mountain and San Miguel Mountain. It proceeds northerly, descending and crossing the Sweetwater River. It then curves northwesterly, crossing the proposed Route 54 Freeway and Jamacha Boulevard. It then parallels Sweetwater Springs Boulevard to the junction with Route 94, where it terminates.

Jamacha Alternative. The Jamacha Alternative diverges from the Sweetwater Springs Alternative near the Sweetwater River crossing. It proceeds northerly to the proposed Route 94 Freeway alignment, then turns westerly and connects with the completed Route 94 Freeway at Avocado Boulevard.

Horseshoe Bend Alternative. The Horseshoe Bend Alternative diverges from the East Lake Alternative near East "H" Street. It proceeds northwesterly through the Rancho San Miguel Development and passes south of the SDG&E substation. It then curves to the west and joins the Substation Alternative, which terminates at Route 54.

An EIR for SR 125 will be prepared; an exact date for final environmental clearance and selection of a roadway alignment is unknown, but is anticipated in the fall of 1994.

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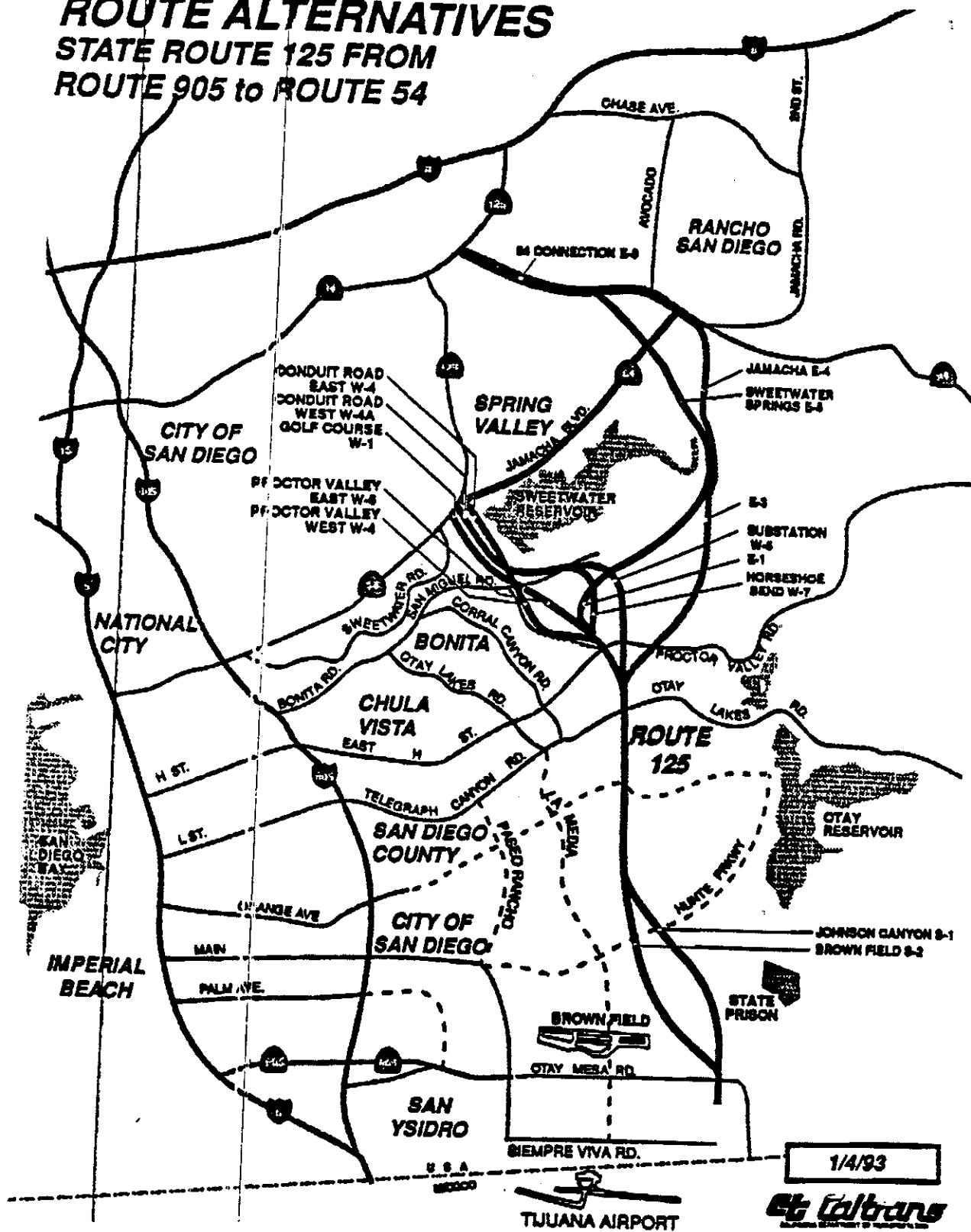
For this impacts discussion, it is assumed the Rancho San Miguel development

is constructed and in place before SR 125 plans are finalized. The discussion below describes how each of the alignments which pass near the Rancho San Miguel development could affect the residential development, and what mitigation measures could be taken by Caltrans and CTV to avoid impacting the Rancho San Miguel development. The converse analysis, i.e., how the development could change assuming SR 125 is constructed first, is presented in Section 5, Alternatives.

W5 Alignment. The W5 alignment of SR 125 would continue northward from East H Street across the eastern side of the planned development. Construction of this alignment would isolate the northeastern and southeastern corners of the southern portion of the Rancho San Miguel development, and would necessitate realignment of the southern end of San Miguel Ranch Road. Approximately 90 lots in the southern portion and 10 lots in the northern portion would be lost to the highway corridor. The highway would also cross the access road to the northern portion, requiring an over- or underpass. Such a highway project being constructed after the development is in place most likely would be prohibitively expensive for right-of-way acquisition, and probably would cause severe disruption during construction and afterward, including severe impacts to visual, noise, and air quality. Such significant impacts could be avoided by tunneling the section of the highway under the southern development. However, other than this extremely expensive solution, the impacts would not be mitigable. If the Rancho San Miguel development occurred first, the W5 alignment for SR 125 would not be feasible.

W6 Alignment. The W6 alignment of SR 125 would cross the western half of the southern portion. Construction of this alignment would result in the loss of half of the school site, roughly one-third of the commercial area, and approximately 50 lots. The loop road around the school and park would need to be realigned. Similar to the W5 alignment, constructing SR 125 in this location after the Rancho San Miguel project is developed would be prohibitively expensive for right-of-way acquisition and would cause severe disruption during construction and afterward. A new school site may have to be found. This alignment of SR 125 would also cause substantial noise and visual impacts to the adjacent park as well as to lots that would remain along the alignment. Tunneling the highway under the Rancho San Miguel development would avoid these significant impacts. However, other than this extremely expensive solution, the impacts would not be mitigable. If the Rancho San Miguel development occurred first, the W6 alignment for SR 125 would not be feasible.

ROUTE ALTERNATIVES STATE ROUTE 125 FROM ROUTE 905 to ROUTE 54



Proctor Valley West Alignment. This alignment alternative, which curves along the western perimeter of the southern portion, has been incorporated into the GDP for the development. Therefore, construction of the highway would only generate temporary construction impacts from noise and dust, and operational noise impacts once the roadway is complete. The long-term noise impacts for lots along the western perimeter of the development would be mitigable by noise walls, as discussed in Section 3.12.

Proposed Interchange. The proposed development includes a bypass, or "connector" road to route project traffic off of San Miguel Ranch Road, as discussed below. No interchange is proposed for this location as current CALTRANS plans provide for an interchange at San Miguel Ranch Road. If the development occurs first, potential alternative interchange locations could be constrained by the houses and roads that would be in place. An interchange could still be located on existing San Miguel Ranch Road, but this would be disruptive if the connector road is already constructed, and would not be an effective location given the development's principal entrance off of San Miguel Ranch Road. Final selection of the interchange location, if any, will be analyzed as part of the CALTRANS documentation for SR-125.

Conclusions. The above analysis demonstrates that if construction of the Rancho San Miguel development as currently proposed precedes SR 125 alignment selection, the feasible choices for an alignment of SR 125 past the development most likely would be limited to the Proctor Valley West alignment. Although this alignment may in fact be the one selected, other alignments are still being evaluated, and the Proctor Valley West alignment may not be the route that is environmentally superior or most desirable to Caltrans. In addition, if development precedes the construction of SR 125, community disruption could occur if the alignment chosen by Caltrans passes through the project site, resulting in fragmentation of the site by a highway barrier. Since a preferred alignment has not been established by Caltrans and CTV, and environmental impacts of each of the alignments have not been determined, further evaluation in this EIR would not result in resolution of this issue. Therefore, in accordance with Section 15145 of the CEQA Guidelines, which states that analyses should not be pursued in an EIR if the answer remains purely speculative, discussion of potential impacts of SR 125 on the Rancho San Miguel development is terminated.

The relocation of the commercial site in the New Plan from the intersection of SR 125 and San Miguel Ranch Road to East H Street and San Miguel Ranch Road would route more local traffic generated by the project onto East H Street, adjacent to other existing commercial areas, rather than on San Miguel Ranch Road. At the GDP level, traffic impacts are evaluated in relation to the adopted General Plan and potential changes in traffic projections. As stated below, the project will only minimally increase traffic in the area, as compared to the Chula Vista General Plan traffic projections, and impacts are not considered significant. Local and interim project traffic/access patterns shall be fully evaluated at the SPA Plan level when more detailed land use and traffic plans are available.

Bypass Road

The bypass road proposed as part of the Rancho San Miguel GDP would intersect with existing San Miguel Road approximately 4,000 feet west of the project entrance at the commercial area. The bypass road would run southeastward, routing traffic off of San Miguel Road and into the development. The proposed roadway offers several advantages over the alternative of upgrading existing San Miguel Road to carry project traffic. The proposed bypass road passes through several large parcels, and would take approximately five residences. However, widening San Miguel Road would involve more than 30 parcels and could take numerous residences. Also, the proposed bypass road would bring traffic directly to the main project roadway (San Miguel Ranch Road). Existing San Miguel Road would enter the development north of this location on the access road leading to the northern portion.

It is not known at this time if the County would prefer to widen the existing San Miguel Road or to implement a bypass road as proposed by the Rancho San Miguel GDP. For either choice, specific environmental impacts will be addressed at SPA Plan level. A disadvantage of either plan is that the County Circulation Element does not show a bypass or a four-lane designation for San Miguel Road. This is important because the road would remain in the jurisdiction of the County even after the development is annexed by the City of Chula Vista. This discrepancy with the County General Plan could be solved by an amendment to the County Circulation Element. The information contained in this Supplement, the Draft EIR on the General Development Plan, and future documentation at more detailed levels of planning will be used by the County to decide on appropriate actions.

Other Future Issues

This section will identify the issues that must be discussed in detail during the development of Specific Area Plans (SPA). Many of these issues are too involved to be discussed presently at this stage of the development process, or impossible to analyze due to the lack of the information.

Interim Project Development Phasing. The recent Eastern Chula Vista Transportation Phasing Plan Update (Willdan Associates, January 1991) identified the need for roadway improvements in the SR 125 corridor before additional development occurs. The City of Chula Vista is currently pursuing a consulting study to determine whether it would be advisable to build an interim roadway facility in the corridor prior to completion of the SR 125 freeway.

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The traffic impact of the proposed project will vary depending on the phasing of the development and the phasing of roadway improvements in the corridor. It is recommended that this issue be reevaluated at the SPA Plan level when more information is available. The construction of the project should be contingent on either construction of some interim or freeway level roadway facility in the SR 125 corridor or provision of alternate routes of travel for project traffic. According to City of Chula Vista

engineering staff, development of the Rancho San Miguel project cannot proceed until the consultant study on the feasibility of building an interim facility in the SR 125 corridor is completed and there is a determination of its alignment.

County Roadway Facilities. The future impact of traffic generated by the project site at buildout on nearby roadways was documented in Table 3.10-3. Many of the impacted roadways are under the jurisdiction of San Diego County. The percentage contribution of project traffic to County roadways is as follows:

- Briarwood Rd., SR 54 to Sweetwater Rd.: 0.4%
- Sweetwater Rd., Briarwood Rd. to SR 54: 0.0%
- Bonita Rd., Central Ave. to Sweetwater Rd.: 0.0%
- San Miguel Rd., Bonita Rd. to SR 125: 2.3%

Light Rail. SANDAG recently completed a study of transit alternatives for the South Bay area (South Bay Rail Transit Extension Study, San Diego Association of Governments, March 1991). One of the alternatives evaluated in this study was an extension of the San Diego Trolley south from Lemon Grove to the international border along SR 125. Based on the evaluation, it was recommended that right-of-way be reserved along SR 125 for this potential trolley extension. In order to leave this option open, it is recommended that the project site design be modified, if necessary, to make room for the trolley extension.

The implementation of the trolley line would also change traffic patterns in the area. Overall traffic levels would tend to decrease as automobile travelers divert to the trolley, while traffic increases would be expected in the immediate vicinity of stations. At the SPA level of traffic impact analysis, the impact of the trolley extension should be re-examined based on the most current information available at that time.

Other Cumulative Developments. The proposed project is one of many development projects which have been planned or approved in eastern Chula Vista. In the vicinity of the project site, much of the traffic generated by proposed development would use East H Street for access to SR 125 or other regional roadways. East H Street should be a key area of emphasis in the SPA-level analysis.

Toll Roadway Impact. The SR 125 freeway was assumed to be a free roadway in the traffic analysis forecasts that were prepared as part of the Adopted General Plan. Studies are currently underway to determine whether SR 125 should be built as a toll roadway. If SR 125 is built as a tollway, traffic that was forecast to use this roadway would be expected to divert to other facilities. The extent of this diversion is unknown. Development of SR 125 as a toll facility would require suitable mitigation to deal with traffic diversion.

Mitigation

To reduce traffic impacts to below a level of significance the following mitigation measures shall be implemented:

- The proposed San Miguel Ranch Road shall be designated as a Four-Lane Major Street between East H Street and SR 125 and a Four-Lane Class I between SR 125 and Bonita Road.
- The proposed north entry road leading to the northern portion of the site from San Miguel Ranch Road shall be designated as a Two-Lane Class III Collector.

Analysis of Significance

Implementation of the proposed project will only minimally increase traffic in the area, as compared to General Plan traffic projections, and the impacts are not considered to be significant. The functional classifications for proposed roads have not been determined, and the impacts are significant. The mitigation measures described above will reduce impacts to a level of insignificance.

3.16 PARKS, RECREATION, AND OPEN SPACE

Existing Conditions

The project site consists almost entirely of undeveloped land, with the exception of the caretaker's house and associated buildings located in the southwest corner of the northern portion. The Chula Vista General Plan designates the majority of the northern portion as open space. In the southern portion the open space designation is applied to areas in the east (see Figure 3.1-3). Existing parks in the surrounding area include the Sweetwater County Park and Sweetwater/Rohr City Park to the southwest, the Spring Valley County Park to the northwest, and the EastLake Park to the south. In addition, proposed and recently approved developments in the surrounding area, such as Salt Creek Ranch and others, are required by the General Plan to provide park acreage.

The Chula Vista General Plan contains goals and policies for parks and open space throughout the city and its sphere of influence. According to the park and recreation element of the General Plan, community parks should be a minimum of 15 acres in size and serve a minimum population of 7,500. Community park facilities should include playing fields for team sports, recreation centers, and picnic areas. While the General Plan requires a 15-acre minimum for community parks, the Parks and Recreation Department prefers a 20-acre minimum (Valenzuela 1991). The General Plan designates a community park in the southern portion of the project site (see Figure 3.1-3).

The Chula Vista General Plan also includes a greenbelt system consisting of a connected series of active and passive parks, undeveloped open space, stream valleys and flood plains, wetlands, bodies of water, and agricultural areas that form a continuous 28-mile system around the city. The greenbelt incorporates a large area within the northern portion of the project, and includes Mother Miguel Mountain (see Figure 3.1-4).

The city's goals and objectives regarding parks and recreational areas are as follows:

- To provide a diverse and flexible park system which meets both the active and passive recreational needs of the citizens of Chula Vista.
- Provide public park and recreational opportunities in a timely manner. Strategies for this include implementation of five-year master plans which describe the location, facility improvements, and funding program for proposed neighborhood and community parks on an ongoing basis.

The city's threshold standard requires that:

- Three acres of neighborhood and community parkland with appropriate facilities be provided per 1,000 residents east of I-805.

The conservation and open space element of the Chula Vista General Plan states that "the majority of the designated open space areas of the general plan are intended to

remain in their natural state with selected areas developed for park and active recreation facilities and other areas actively managed for enhancement of wildlife and plant habitat and development of a trail system " The plan further states that "there is only one significant mountain in the Chula Vista General Plan area. This is Mother Miguel Mountain which rises 1,200 feet above the Sweetwater Reservoir and Proctor Valley " It is the intent of the city to preserve this landform in its natural state and direct urban development to areas away from the landform defining the mass of the mountain. The proposed project implements this objective of the city's conservation and open space element of the General Plan.

Impacts

Parks

The City of Chula Vista threshold standard for park dedication is 3 acres per 1,000 residents. The Chula Vista Municipal Code uses a factor of 3.22 residents per dwelling unit for single family homes as a population size for parkland dedication. Based on these factors, a total of 16 acres should be dedicated as parkland. The project proposes a community park of 20.5 gross acres, to be located adjacent to the elementary school site in the southern portion of the site. Therefore, the impact of the proposed project with regard to the provision of adequate parkland is not significant. Development of the community park as proposed will require substantial alteration of the existing landform in the southern portion. The impacts of grading and landform alteration are discussed in this Supplement, Section 3.2, Landform/Visual Quality.

Trails

The applicant is proposing a system of hiking trails that would incorporate existing hiking and equestrian trails on Mother Miguel Mountain. The project proposes expanding the system to access a series of vista points. The trails are envisioned for multiple trail uses that will accommodate both hikers and horseback riders. Trails essentially follow a southwest/northeast path in the eastern half of the northern portion of the property. Both trails and paved sidewalks are proposed for the southern portion. A trail follows along the northern edge of the southern portion adjacent to the SDG&E property. Trails follow along both SDG&E easements in the southern portion, and also traverse the open space area along the eastern edge. The proposed trail system will connect to the County's regional hiking and equestrian system at the northernmost corner of the northern portion. A private trail connects to the County system along the western edge of the northern portion. This proposed trail system would provide continuity for the City's greenbelt trail system. The location of staging areas for hiking and equestrian activities have not been finalized; the locations will be determined and the impacts evaluated at the SPA level.

Hiking trails are proposed through the SDG&E property and along SDG&E power line easements. As discussed in Section 3.1 (Land Use), the location of trails within power transmission easements has limited acceptability to the City's Parks and Recreation Department. Therefore, the proposed trail system must be reevaluated at the SPA level when more specific development plans can be reviewed.

The proposed trail system could affect biological resources because the trails would provide access into areas designated as open space that contain sensitive plant and animal species. Domestic animals associated with urban developments are known to impact wildlife when that development is adjacent to an open space area. The trail that connects the northern and southern portions of the project is in close proximity to an existing golden eagle perching site. The proposed trail system would not adversely impact wildlife movement through the open space areas of the project site. Larger mammals, such as deer and coyote, tend to use trails rather than avoid them. However, the trails would have to be managed to limit factors that would frighten animals away from areas where trails are located. Given these factors, the biological impacts of the proposed trail system are considered to be significant.

Development of the unpaved portion of the trail system could result in soil erosion and resulting water quality impacts. In steeply sloping areas, trails could act as water collection channels on which water would flow, causing erosion, undermining of the soil base, and siltation of downslope water bodies. The impacts are considered to be significant.

The connection of project trails to the County trail located along the south side of Sweetwater Reservoir would have a positive effect on trail circulation in the Eastern Territories by providing linkages to the regional system for areas surrounding the project site. Additionally, those areas north and east of the project site would be able to access trails south and east of the project site by using project trails. Activity on the County trail south of Sweetwater Reservoir would increase as a result of connection to the project site, but this is not considered to be a negative effect since adequate circulation throughout the trail system is desired by trail users. Significant impacts to this County trail would not occur as a result of development of the proposed project.

As depicted in Figure 3.16-1, a trail follows along Proctor Valley Road on the southwestern and southern edge of the southern portion of the project site. This trail has not been officially dedicated to the County, but is shown as a proposed trail on the Sweetwater Community Plan Riding and Hiking Trails map. Development of the project would affect this trail in several locations. Along the southwestern boundary of the project the applicant has maintained a buffer area for SR 125, which is where the Proctor Valley Road trail occurs. Also, the trail would be directly impacted by project development adjacent to the proposed community purpose facility located at the central/southern boundary. The impacts of the project on the continuity of this trail are considered to be adverse but not significant since the trail is not in the official County dedicated trail system.

Open Space

The project would preserve 1,648 acres of permanent open space (64 percent of the project site). The open space designation preserves the majority of steep slopes in the northern portion, including Mother Miguel Mountain. Mother Miguel Mountain will be preserved as permanent open space. The open space is generally consistent with the greenbelt system of the general plan. The project first proposed by the applicant included encroachment of residential development into three areas designated by the Chula Vista General Plan as Open Space. The project as revised deletes the encroachment within two of the three areas. The proposed development in the third area, a portion of Planning Area 14, is recommended. The proposed development in that area would have no adverse impacts upon the General Plan, the biological concerns have been mitigated, and since the General Plan lines are meant to allow for flexibility, such an adjustment may be undertaken without the need for a General Plan Amendment. Cumulative open space impacts would occur in the Chula Vista Eastern Territories. The proposed project, in combination with other development in the area, would contribute to those cumulative impacts, which are discussed in this Supplement, Section 10.

Mitigation

The impacts of locating staging areas for the trail system for hikers and equestrian users are unknown at this time and must be evaluated at the SPA Plan level.

Impacts the proposed trail system will have on biological resources can be mitigated to below a level of significance upon implementation of the following mitigation measures:

- The trail system layout and site specific designs shall be prepared in coordination with the City's Parks and Recreation Department and the Environmental Coordinator. The location of trails within power transmission easements is discouraged by the City's Parks and Recreation department. This issue will be further analyzed at the SPA Plan level at which time the potential impacts will be reevaluated.
- The trail system shall be managed and policed in a manner that will be consistent with the objective of protecting the habitat and associated plant and animal species from harm.
- A list of rules regarding proper trail use shall be posted at the interpretive center and also at strategic locations along the trail system.
- Dog-owners shall not be allowed to bring their pets onto any trails within the trail system that occur in open space areas, on or off leash.
- Use of the open space area shall be limited to designated trails.

- No collecting or molestation of natural resources shall be allowed (e.g., horned lizards, cactus, flowers)
- Open fires, smoking, and weapons shall not be allowed in the open space areas and trail system.
- Mountain bikes shall also be prohibited, due to the extreme sensitivity and regional value of the biological resources in the areas traversed by the trails, and because mountain biking often generates off-trail impacts.
- Certain portions of the trail system that traverse sensitive habitats shall be subject to periodic closure to help protect wildlife and allow recovery of the habitat.
- The portion of the trail system that crosses the most eastern area of the SDG&E property shall be rerouted far east as is feasible (possibly utilizing an existing jeep trail) to avoid a golden eagle perching site located in the area (see Plate 3 in pocket of Draft EIR 90-02 -- Volume 1).
- Areas the trails access shall be periodically reviewed to ascertain damage from overuse. If it is determined that an area is being degraded the associated trails shall be closed periodically to allow recovery from use.
- All trails shall be constructed to prevent the channeling of urban runoff into the surrounding open space and Sweetwater Reservoir, to the extent feasible.

Analysis of Significance

The proposed trail system would bring users into open space areas that contain sensitive biological resources, constituting a significant impact. Implementation of the above measures would mitigate the biological impacts associated with the trail system to a level of insignificance.

Portions of the proposed trail system traverse power transmission easements. This has limited acceptance to the City's Parks and Recreation Department; the trail system should be located outside of power transmission line easements, to the extent feasible, and in no event will any active uses be allowed within the transmission line easements. By implementing these measures, the impacts associated with trails within transmission line easements will be mitigated to insignificance; however, the issue will be further analyzed at the SPA Plan level.

The project proposes adequate parkland to comply with City standards, therefore, the impacts are not significant. The project proposes 1,648 acres of open space that connects to the Chula Vista greenbelt system; therefore, no significant open space impacts in this area are identified. The location of staging areas for trail users have not been determined; the impacts are unknown and must be evaluated at the SPA Plan level.

The project, in combination with other development in the area, will have a cumulative impact on loss of open space in Chula Vista's Eastern Territories.

SECTION 6

UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL IMPACTS

There are several impacts which cannot be avoided if the Rancho San Miguel project is developed as proposed. The primary unavoidable and unmitigable impact is the loss of important biological resources. The proposed GDP would result in significant unmitigable impacts to the California gnatcatcher, cactus wren, Otay tarweed, Palmer's grappling hook, coast barrel cactus, California adolphia, and 467 acres of Diegan coastal sage scrub habitat.

Other impacts which cannot be avoided with the project as proposed are:

- the removal of Horseshoe Bend and Gobblers Knob, landforms in the southern portion; and
- the contribution to county-wide emissions of NO_x reactive hydrocarbons, and particulates, as state and federal standards are currently not being met in San Diego County; and
- visual impacts of locating a certain number of lots in close proximity to the SDG&E substation (where expansion activities are planned).

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SECTION 7
RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF
THE ENVIRONMENT AND THE MAINTENANCE AND
ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Section 15126(e) of the State CEQA Guidelines requires as part of the discussion of environmental impacts, an assessment of how the proposed project would affect short-term use of the environment at the expense of maintenance of long-term productivity.

The Rancho San Miguel project would result in several cumulative impacts on the environment as fully discussed in Section 10 of this Supplement. Cumulative impacts include the conversion of the area from open space to urban uses; a substantial reconfiguration of the area's landform; the destruction of hundreds of acres of sensitive biological habitat and many sensitive plants, and the encroachment onto regionally significant wildlife corridors resulting in significant incremental cumulative loss of quality biological habitat in the region. Other cumulative impacts include the gradual reduction of the area's cultural resources and water quality impacts to the Sweetwater River through surface runoff.

The development of the Rancho San Miguel site would severely limit its function as a prime biological resource rich in biodiversity. Several regionally significant biological habitats exist on the project site that support sensitive plant and animal species and serve as a wildlife movement corridor. The project site forms a critical link of a contiguous open space corridor between the Sweetwater Reservoir and Otay Mesa. In addition, a portion of the project site represents core habitat for the California gnatcatcher, a candidate species for federal endangered listing. The project's impacts on the area's biological resources are more fully discussed in Section 3.3 this document and Appendices B and C of Volume 2.

Although the projects' proposed open space (1,648 acres) would implement the Greenbelt portion of the Chula Vista General Plan and provide for some wildlife movement and quality habitat preservation, the project, if developed, would narrow the range of the site's beneficial uses as a wildlife movement corridor, and quality habitat for maintaining the region's biodiversity. The current beneficial use of the site's environment cannot be maintained in the future unless the project avoids the most sensitive areas of the site so that the site's biological importance can be preserved. As discussed in Section 5 of Draft EIR 90-02 (Volume 1), the environmentally superior alternative to the project (besides the no project alternative) is the biologically sensitive alternative which proposes that the development be removed from the northern portion and concentrated or clustered in the southern portion, and thus preserving much of the site's biological value while accommodating development. However, even this alternative is not sufficient to fully mitigate significant impacts to biological resources, principally because large populations of Otay tarweed, a State endangered plant, occur in the southern portion proposed for development. It should be noted that the dedication as permanent open space of approximately 1,648 acres (which comprises 64 percent of the total project site) will anchor the northeast portion of the City's greenbelt and provide an opportunity for passive activities including hiking and equestrian uses. These long-term benefits are consistent with the City Council's previous decision to allow development in the northern portion of the project site so

that housing opportunities are provided and open space and recreational uses are promoted within the City's greenbelt.

The Chula Vista General Plan designates the project site for future development, primarily low-density single-family residential. The City's General Plan Final EIR identified significant, unmitigable biological resource impacts resulting from buildout of the City's General Plan, particularly in the Eastern Territories. The EIR alternatives analysis included the Rancho San Miguel project and cited unmitigable biological impacts for this alternative, which was adopted by the City with a Statement of Overriding Considerations.

The biological impacts of the Rancho San Miguel development are further substantiated in this EIR on the GDP which evaluates the site's biological resources in more detail based on focused field work and thoroughly analyzes the impacts resulting from the area's future development. The evidence contained in Draft EIR 90-02 documents the project site's current value as a prime biological resource both in the northern and southern portions and the inability of the resource to sustain itself while accommodating the General Plan buildout scenario in this area. The allowable development on the project site, therefore, narrows the site's use to urban development at the expense of its current value as a regionally and locally significant biological resource.

Development of the project as currently designed places the alignment of Hwy 125 along the southwestern side of the southern portion of Rancho San Miguel, as shown on Figure 3.10-1. This alignment is generally consistent with the SR125 alignment set forth in the City's General Plan. However, this is only one of several alignments being considered for Hwy 125, as discussed in this Supplement, Section 3.10, Transportation/Access, and Section 5 of the Draft EIR, Alternatives (Volume 1). The final alignment of Hwy 125 will not be selected until about December 1993, or thereafter, when alignment studies and environmental documentation initiated by Caltrans are completed.

SECTION 8
IRREVERSIBLE ENVIRONMENTAL CHANGES
THAT WILL RESULT FROM THE PROPOSED PROJECT

Sections 15126 (f) and 15127 of the CEQA Guidelines require that significant irreversible environmental changes which would result if a project is implemented must be addressed for projects which involve the following:

- the adoption, amendment, or enactment of a plan, policy, or ordinance of the public agency;
- the adoption by a Local Agency Formation Commission (LAFCO) of a resolution making determinations; or
- preparation of an Environmental Impact Statement pursuant to the National Environmental Policy Act of 1969

This section is required for the Rancho San Miguel GDP EIR because amendments to the City and County Circulation Elements are proposed, and decisions by LAFCO are needed.

As currently proposed, the Rancho San Miguel development project would cause several irreversible environmental changes. Of greatest consequence is the conversion of a regionally significant area for biological resources into an urban development which would be unable to support the rich and diverse plant and animal species on the site. The Rancho San Miguel property encompasses habitats supporting 13 sensitive plant species, 20 sensitive animal species, potentially the single largest concentration of California gnatcatchers in southern California, and perhaps the largest known population of Otay tarweed in San Diego County, in addition to regionally significant populations of coast barrel cactus and San Diego cactus wren. These biological resources would be irretrievably lost.

The Rancho San Miguel property encompasses 16 important cultural resources sites, 8 of which would experience direct impacts and would require data recovery for mitigation if the project is developed as planned. These sites include three which were identified as exceptional and representing regionally significant resources (SDi-4529, SDi-6957, and SDi-4530). Although data recovery is specified to mitigate impacts to below a level of significance, these sites, as they exist in their natural state, would be irretrievably lost.

Proposed grading in the southern portion of the development would permanently alter two landforms, Gobblers Knob and Horseshoe Bend. These two features would be virtually eliminated by the grading plan for the southern portion.

Other irreversible changes caused by the project include an incremental degradation of air quality due to grading and other construction activities. The project would result in irreversible use of wood and other construction materials, and direct consumption of fossil fuels (diesel fuel, gasoline, oils), for construction equipment and automobiles traveling to and from

the residential development. The project also would cause indirect consumption of fossil fuels for generation of electricity to operate development infrastructure and support the residential development.

SECTION 9 GROWTH INDUCEMENT

Growth inducement is defined in the California Environmental Quality Act (CEQA) Guidelines (Section 15126(g)) as "ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." A second type of growth inducement listed in the CEQA Guidelines is the removal of obstacles to growth by extending, for example, infrastructure into a new area. CEQA Guidelines (Section 15126(g)) specifies that "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

Growth inducing considerations are critical in the environmental review process at initial project approval stages because those first approvals (i.e., General Plan, General Development Plan and Zoning) provide for future, subsequent entitlement and project implementation. In other words, the public entity's initial decision to convert the land has been made once an urban General Plan land use designation has been established. It is appropriate and necessary to evaluate in depth the growth inducement at that stage of the planning process. For this particular project, residential land uses for the site were included in the City's General Plan Update and analyzed in General Plan EIR 88-2 as the Rancho San Miguel Alternative. Those documents, which are incorporated by this reference and are available at the Planning Department of the City of Chula Vista, serve to document the long-term growth inducing effects of site development for this project at the general development plan level.

The County of San Diego Regional Land Use Element and Land Use Map (August 1984), which is also incorporated by this reference, contains several goals regarding urban growth. The focus of these goals is to manage urban growth so that planned communities are balanced appropriately with necessary facilities and urban levels of service.

The City of Chula Vista recently developed and adopted a Growth Management Program. The Growth Management Program is the final component in the City's effort to create a comprehensive system to manage future growth. The program implements the Growth Management Element of the City's General Plan, and establishes a foundation for carrying out the development policies of the City by coordinating future growth in order to guarantee the timely provision of public facilities and services. The City's Growth Management Program is also incorporated by this reference.

These long-term comprehensive planning documents set the stage for analyzing growth inducing impacts resulting from the proposed project. Growth inducement can take several forms. A project can remove barriers, provide access, or eliminate other constraints which encourage growth that has already been approved and anticipated through the General Plan process. This "planned" growth is reflected in land use plans that have been developed and approved with the underlying assumption that adequate support facilities will be constructed. This is generally described as accommodating or facilitating growth. In addition, a project can remove barriers, provide new access or otherwise encourage growth which is not assumed as "planned" growth included in the General Plan of the affected jurisdiction. This could include areas which are currently designated for open space, agricultural uses, or similar non-urban land

uses that, because of new or significantly improved access, could experience pressure to develop urban uses.

There are, of course, many other factors which affect the amount, location and rate of growth in the City of Chula Vista and the region in general. These include: market demand for housing, employment and commercial services; the desirability of the climate and the living and working environment; the strength of the local employment and commercial economy; the availability of roadway improvements; the availability of other services and infrastructure; and the land use and growth management policies of the City, the County and other municipal jurisdictions. It is in the context of these growth inducement considerations that the proposed project is analyzed.

The proposed Rancho San Miguel project would contribute directly to growth in the City of Chula Vista through the annexation of approximately 2,590 acres of land to the city and the subsequent construction of new residential, commercial, and recreational facilities. The project as revised proposes the construction of 1,619 single-family homes, a 140-acre commercial center (approximately 140,000 square feet), a 6.7-acre conference center/retreat, and a 6-acre interpretive center. As discussed in Draft EIR 90-02, Section 3.13, the residential development could generate an additional 5,790 persons in the City of Chula Vista. Using a factor of 1 employee per 700 square feet of development (Barbieri 1991), the commercial center could generate approximately 200 new jobs. An unquantified number of jobs would also be created by the school, conference center/retreat, and interpretive center.

In addition to the direct generation of new persons and jobs, the project would indirectly stimulate the City of Chula Vista and the County of San Diego economies as monies earned from the jobs generated by the project are spent and re-spent in other sectors of the economy. Successive rounds of investment and expenditures in a local economy continue to reap economic benefits in terms of economic growth to the region. This is known as the "multiplier effect" and also means that additional new jobs will be generated. Economic growth may also result from the project in terms of local government, if the fiscal study prepared on the project is correct: the development is projected to have a net positive fiscal impact on the City of Chula Vista of approximately \$530,897 annually (current dollars) (Draft EIR 90-02, Section 3.14).

The Rancho Miguel project would contribute cumulatively to the encroachment of urban areas from the City of Chula Vista into open spaces east of the city in conjunction with other projects in eastern Chula Vista such as Salt Creek Ranch and EastLake. The project area is roughly bounded by urban development to the west, Proctor Valley Road to the south, San Miguel Mountain to the east, and the Sweetwater Reservoir to the north. The Sweetwater Reservoir, San Miguel Mountain, and other steep topography restrict the amount of additional development that could occur to the north, east, and northeast. Development is occurring immediately north of the Sweetwater River. Development is occurring or planned on adjacent land to the south or southeast. Land to the southeast of the project site, known as Otay Ranch, is presently used primarily for agriculture; development planning is underway for this large site. The cumulative effect of these projects is likely to be the encouragement of other development east of the city in existing open space lands.

The growth stemming from the proposed project may be different than what might occur without the project since, as unincorporated county land, the site is currently designated a specific plan area because the county believes that the site has environmental constraints which require special land use controls. It should not be assumed, however, that the growth that would be associated with the project, or growth that may occur on adjacent lands, has not been planned or anticipated. An analysis of projects surrounding the project site that would, along with the proposed project, contribute to regional growth, can be found in Section 10, Cumulative Impacts. Following is a list of the planning documents used in this analysis:

- EastLake FEIR, 1982, City of Chula Vista
- Salt Creek I Final SEIR, 1989, City of Chula Vista
- El Rancho del Rey-Long Canyon Sectional Area Plan FEIR, 1979, City of Chula Vista
- Bonita Meadows Rezoning and Annexation DEIR, 1988, City of Chula Vista
- Sunbow General Development Plan Pre-Zone, 1989, City of Chula Vista
- Salt Creek Ranch Annexation/General Development Plan/Pre-Zone Final EIR, 1990, City of Chula Vista
- Otay Ranch DEIR (Checkprint), 1991, County of San Diego and City of Chula Vista Joint Planning Project
- Rancho San Diego Specific Plan Amendment FEIR, 1987, County of San Diego
- The Pointe

Growth projections for the area have been made by SANDAG through the year 2010. (Census Tract 134.04 includes the project site Bonita Meadows, and other developments such as Bonita Long Canyon, Salt Creek I, and portions of Salt Creek Ranch and EastLake. The Sweetwater Subregional Area, SRA 20, includes Census Tracts 134.04, 133.05, and 134.03) These growth projections (Series 7) are summarized in Table 9-1. As can be seen therein, both Census Tract 134.04 and SRA 20 are projected by SANDAG to experience growth in terms of additional population and housing and increased availability of jobs over the next 15 years (3.5 to 6.0 percent increase annually). Table 9-2 compares the development proposed by the project with that forecast by SANDAG for Census Tract 134.04 from 1995 to the year 2010. As shown in Table 9-2, the project represents approximately 54 percent of the projected population growth, approximately 34 percent of the projected housing growth, approximately 22 percent of the projected employment growth, and 78 percent of the land projected by SANDAG to be developed from 1995 to 2010. However, the project as proposed was not included in SANDAG Series 7. This series of projections, which was based on field work in 1986, assumed only

one-fourth of the southern portion of Rancho San Miguel (the southwest corner) would be designated as low-residential and the rest of the property would be open space. Therefore, the project represents growth that was not anticipated by SANDAG.

Chapter 14 of the City of Chula Vista General Plan addresses growth in the Eastern Territories, an area that includes the Rancho San Miguel project site. This area has been planned for approximately 12,451 acres of development (an increase over existing development of approximately 52 percent) by the City of Chula Vista. Planned land uses are shown in Table 9-3. Other developments already proposed or underway in the Eastern Territories are described in Section 10, Cumulative Impacts.

The Rancho San Miguel project would induce growth, particularly economic and population growth in the City of Chula Vista, and could indirectly, in conjunction with projects such as Salt Creek Ranch and EastLake, encourage the development of other lands east of the City of Chula Vista. In conclusion, the Rancho San Miguel project would result in additional growth as defined by the CEQA Guidelines, Section 15126(g). Although, it is growth that has not been anticipated by SANDAG, it has been planned for by the City of Chula Vista, as evidenced by the updated General Plan.

Table 9-1
SANDAG GROWTH PROJECTIONS FOR THE PROJECT AREA

	Sweetwater SRA 20			Census Tract 134.04		
	Year 1986	Year 2010	Annual Percent Change	Year 1986	Year 2010	Annual Percent Change
Total Population	36,440	107,939	4.6	10,585	35,254	5.1
Occupied Housing Units	10,267	36,122	5.4	3,018	11,576	5.8
Total Employment	6,669	15,196	3.5	793	2,910	5.6
Total Developed Acreage	4,156	16,642	6.0	1,550	4,086	4.1

Source: SANDAG, Series VII Regional Growth Forecasts, July 1988.

Table 9-2
**COMPARISON OF PROJECT WITH SANDAG GROWTH FORECAST
FOR CENSUS TRACT 134.04**

	Proposed Project	Increase in Census Tract 134.04 ¹ from Years 1995 to 2010
Population	5,790 ²	10,779
Housing		
Single-family	1,654	4,240
Multifamily	0	651
Employment	400 ³	1,808
Developed Acreage	937	1,202

¹ SANDAG, Series VII Regional Growth Forecasts, July 1988.

² Based on 1,654 units and approximately 3.5 persons per dwelling unit.

³ Assumes 285 employees for the commercial center, 50 employees for the school, and 65 employees for the conference center and inn.

Table 9-3
EXISTING AND PROPOSED LAND USE IN THE
EASTERN TERRITORIES
(in acres)

Land Use	Existing	Proposed
<u>Residential</u>		
Low	206	3,315
Low Medium	805	3,598
Medium	13	578
Medium High	8	72
High	0	17
<u>Commercial</u>		
Retail	0	254
Visitor	0	15
Professional/Administrative	8	110
<u>Industrial</u>		
Research/Industrial	222	1,319
<u>Public, Quasi-Public, Open Space</u>		
Public/Quasi-Public	82	762
Parks/Recreation	38	878
Water	1,533	1,533
Open Space	<u>20,788</u>	<u>11,252</u>
TOTAL	23,703	23,703

Source: City of Chula Vista, 1989, Chapter 14, Eastern Territories Area Plan, General Plan.

SECTION 10 CUMULATIVE IMPACTS

CEQA Guidelines define cumulative impacts as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts" (Guidelines Section 15355). An EIR must discuss cumulative impacts when they are significant (Guidelines Section 15130(a)). Several projects proposed or planned for the area surrounding the Rancho San Miguel site may, in conjunction with the proposed Rancho San Miguel development, have significant cumulative impacts. A cumulative impacts analysis must discuss the severity of the impacts, their likelihood of occurrence, and examine reasonable options for mitigating or avoiding any significant cumulative effects. The discussion however, need not be as detailed as that provided in analyzing the effects of the proposed project (Guidelines Section 15130(b)(3)).

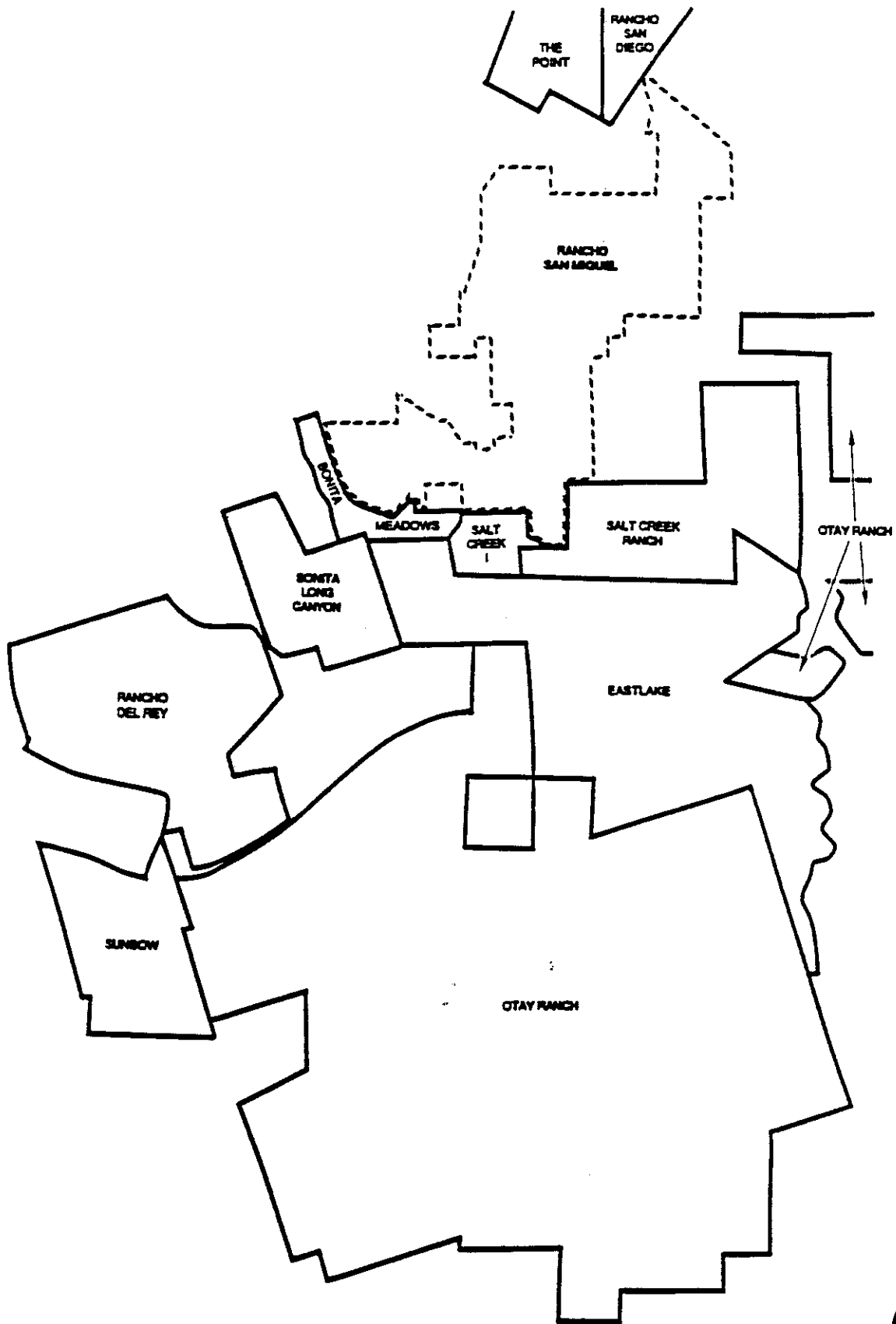
The cumulative impacts analysis must include either (a) a list of past, present, and reasonably anticipated future projects, including those outside the agency's control, that have produced or are likely to produce, related or cumulative impacts; or (b) a summary of projections contained in adopted general plans or related planning documents that are designed to evaluate regional or area-wide conditions, provided that such documents are referenced and made available for public inspection at a specified location.

Projects planned or proposed near the Rancho San Miguel site (Figure 10-1) are:

- Salt Creek Ranch
- Salt Creek I
- Otay Ranch
- EastLake Planned Community
- Rancho del Rey Development
- Sunbow Planned Community
- Bonita Long Canyon
- Bonita Meadows
- The Pointe
- Rancho San Diego

All of these projects are located in the Eastern Territories in reasonably close proximity to the Rancho San Miguel site, and will together determine the future character of the Eastern Territories from a whole range of environmental perspectives: air quality, traffic, water, visual quality, biology, etc. In the discussion that follows, analysis for the Otay Ranch development is based on the proposed project and eight currently proposed alternatives, reflecting thereby, a mid-range of impacts. While the Bonita Meadows project has been inactive for 2-1/2 years, the project site will probably be developed in the foreseeable future at a density similar to that described in the Bonita Meadows EIR.

Cumulative impacts are discussed in the appropriate sections of this EIR where they are potentially significant. A summary of cumulative impacts in the important issue areas follows.



NOT TO SCALE

FIGURE

10-1

10.1 LAND USE

The project will contribute to an incremental increase in the area's conversion of open space and rural land to urban land uses. The City of Chula Vista General Plan (1989) designates all of the areas where the above-mentioned developments are to be built as developable. The Valle de Oro Community Plan designates all of the above-mentioned developments within county jurisdiction as developable. The rural estate context of Bonita would be cumulatively impacted at a significant level by more intense urban land uses planned in the surrounding area by both the City of Chula Vista and the County.

Incorporation of natural open space into project design can offset some of the impacts related to the conversion of open space to urban uses. Despite such general mitigation measures, the projects would contribute to a significant cumulative land use impact.

10.2 LANDFORM/VISUAL QUALITY

Project grading and development will contribute to an unavoidable, unmitigable adverse cumulative impact on the area's visual quality. Grading will be substantial at all of the project sites, and landform will be considerably altered.

- At Rancho del Rey, implementation of the grading plan will entail cutting most of the ridge areas onsite and filling in the lower elevations, including many of the finger canyons. A total of 9,500,000 cubic yards of cut and fill will be required. Cut slopes will range from 40 to 100 feet in height, and manufactured slopes will be visible from a variety of nearby areas.
- At Sunbow, grading will result in substantial modification of the existing terrain. The topography will change from rolling hills to generally flat graded pads. Virtually all views over the site and to the east will be blocked by landscaping and structures.
- The EastLake development will alter the original topography of the project site and the appearance of the surrounding landscape. Considerable grading will be conducted, including cut slopes of up to 70 feet in height, the leveling of several hills, and the filling of several interior drainages.
- At Salt Creek Ranch, development is expected to significantly alter the existing pastoral character of the project site, but mass grading will likely be avoided, preserving more of the natural contour than at other similar developments.
- At Salt Creek I, some mass grading will take place, but less than foreseen in the commercial/industrial plan originally approved for this site.

- At Otay Ranch, grading required for the project will substantially alter the existing landforms and visual characteristics of the site. Some grading is planned for steep hillsides and canyons, and along the Otay River Valley. Development is proposed in several areas where the slopes are in excess of 25 percent gradient.
- At the Pointe, grading and development in excess of that permitted by the Spring Valley community plan is expected. Development of the site will create residential pockets on hillsides and require extensive grading of the valley floor for the resort. Such grading will significantly alter site topography and may result in adverse impacts on the visual and aesthetic character of the area.
- At Bonita Long Canyon, considerable ridge-top grading is expected to have a major aesthetic impact on its virtually undisturbed site, and man-made features will be visible from many surrounding areas. Major canyon filling will be required for construction of the extension of Corral Canyon Road.
- As projected in the EIR for the development, approximately 84 percent of the Bonita Meadows project area would be disturbed, extensively altering the site's natural topography. The central and southern hillsides would be terraced, the eastern side of the main drainage filled, slopes manufactured, and the entire stream channel realigned to accommodate site design. However, this project has been on hold for over 2 years.
- At Rancho San Diego, implementation of the Specific Plan will result in extensive grading, substantially altering the existing landform and visual characteristics of the site. A total of 3,000,000 cubic yards of balanced cut and fill will be required. Cut slopes will range from 60 to 80 feet in height. Approximately 33 percent of the proposed grading will occur on over 25 percent slopes. The highest ridgeline of the Specific Plan area is proposed to be developed with single-family residences which will be visible from the surrounding areas.
- As projected, the Rancho San Miguel development would entail significant reconfiguration of the southern portion of the area: Gobbler's Knob and Horseshoe Bend would be largely removed, and terraced manufactured slopes would step down to Proctor Valley Road. Grading on steep slopes may be required for the conference and interpretive centers, and water tanks and other facilities could have significant visual impacts (though this

has not yet been determined).

Development of all of these projects will add to significant night-sky illumination impacts occurring in the San Diego region

General mitigation measures being incorporated by each of these projects that would serve to offset some of the landform/visual quality impacts include the review of grading plans by a licensed civil engineer, adherence to city and county grading ordinances and hillside development guidelines, contour grading, slope revegetation, and restricting grading to the building pad. Nevertheless, these projects would still contribute to significant incremental cumulative changes in natural landforms and degradation of visual quality in the region

10.3 BIOLOGY

Despite mitigation measures taken to preserve biological resources in each of the project areas, the cumulative impact of these developments on sensitive species and habitats is adverse and significant. The projects will significantly reduce the amount of certain sensitive habitats such as wetlands, Diegan coastal sage scrub, and non-native grasslands; lead to significant impacts to numerous state and federally listed sensitive plants; impinge upon regionally significant wildlife corridors; and eliminate some of the best California gnatcatcher habitat identified.

- The EastLake project will destroy some freshwater marsh and riparian habitat, rendering the area less attractive for least Bell's vireo, yellow warbler, and two-striped garter snakes.
- The Sunbow project will significantly affect vernal pools, the cactus wren, Otay tarweed, and Diegan coastal sage scrub.
- The Rancho Del Rey project will have a significant impact on wetlands, riparian, and Diegan coastal sage scrub habitats and, consequently, on black-tailed gnatcatcher populations.
- The Salt Creek project will entail the loss of several acres of native grassland habitat and 17 acres of Diegan coastal sage scrub habitat supporting endangered plant species, black-tailed gnatcatcher, and cactus wren.
- The Salt Creek I development will result in impacts to wetlands, Diegan coastal sage scrub habitat, the sensitive plant species, *Hemizonia conjugens* (Otay tarweed) and the black-tailed gnatcatcher.
- The Otay Ranch project will result in the conversion of 11,809 acres of open space (52 percent of the total site). Significant impacts will occur to coastal sage scrub, maritime

succulent scrub, valley needlegrass, and wetland habitats. Approximately 3,861 acres of Diegan coastal sage scrub will be impacted. Significant impacts will also occur to numerous sensitive plant species, including the state-listed Otay tarweed. Significant impacts to the least Bell's vireo, California gnatcatcher, and cactus wren will occur.

- The Pointe resort will result in the conversion of 308.4 acres of open space. This conversion will include the loss of a maximum of 297.6 acres of upland habitat (47 percent of the total upland acreage) and 10.8 acres of wetland habitat (95 percent upland of the total wetland acreage). As a result of this conversion, wildlife habitat will be fragmented, and significant adverse impacts will occur to black-tailed gnatcatcher and Otay tarweed populations.

- The Bonita Long Canyon development is expected to result in the loss of 330 acres of natural habitat, significantly impacting Otay tarweed, cactus wren, white-tailed kite, and Cooper's hawk populations.

- The Bonita Meadows development is expected to result in the elimination of 200 acres of wildlife habitat (including most of the onsite Diegan coastal sage scrub) and the removal of the majority of the sensitive species populations. In particular, San Diego marsh-elder, burrowing owl, and black-tailed gnatcatcher populations are expected to be significantly impacted. However, this project has been on hold for over 2 years.

- The Rancho San Diego Specific Plan will result in the conversion of 1,218 acres of open space. Approximately 12.7 acres of wetland habitat and 192 acres of coastal sage scrub habitat will be eliminated by the proposed development. The nesting sites of 10 to 12 pairs of black-tailed gnatcatcher (35 percent of the total nesting sites) will be impacted.

- As proposed, the Rancho San Miguel project would eliminate 467 acres of Diegan coastal sage scrub, 415 acres of non-native grassland, and 3 acres of wetlands; 7 sensitive plant species would be significantly impacted as would 2 sensitive wildlife species and their habitats (California gnatcatcher and cactus wren).

Revegetation efforts, onsite and offsite re-creation of habitats, on-site mitigation plans, and offsite habitat preservation programs can offset some of these impacts. In addition, the Habitat Conservation Plan for the Sweetwater River will serve to guide and direct conservation

efforts in that area. These projects would, nevertheless, contribute to a significant incremental cumulative loss of quality biological habitats in the region as a whole.

10.4 ARCHAEOLOGY/HISTORY/PALEONTOLOGY

There is potential for adverse impacts to archaeological/paleontological resources at all of the project sites, many of which may be mitigated to below a level of significance through monitoring of grading activities by qualified archaeologists and paleontologists, protective easements around areas of regional archaeological/historical importance, and/or data recovery programs at sites which will be affected by development-related construction or recreation activities.

The cumulative effect of the above-mentioned developments is to gradually reduce the quantity and quality of existing cultural resources through grading, excavation, and construction activities and to expose unprotected sites in open-space areas to degradation due to increased human recreational activity.

10.5 GEOLOGY/SOILS

No significant cumulative impacts will result from construction of the Rancho San Miguel development in conjunction with the other projects mentioned above, as impacts in this category are primarily site specific. None of the soils in the project areas are considered to constitute prime farmland, and all adverse geotechnical soil characteristics can be mitigated through appropriate site-specific excavation and construction methods.

10.6 MINERAL RESOURCES

The entire Rancho San Miguel project site is included in Mineral Resource Zone (MRZ) 3, according to the California Division of Mines and Geology, indicating that it contains mineral deposits whose significance cannot be determined on the basis of currently available data. There is a general lack of significant regional mineral production in the eastern territories as a whole (see Figure 10-2). A low to moderate potential for crushed rock and decorative stone exists in the Santiago Peak volcanics at the Rancho San Miguel site, though the larger exposures are found at portions of the site that are not being proposed for development and throughout western San Diego County.

The cumulative effect of development of all of the above-mentioned projects on mineral resources in the region is not expected to be significant due to the sites' generally low resource development potentials, lack of existing mineral development, and absence of geologic deposits that are not found widely throughout western San Diego County.

10.7 CONVERSION OF AGRICULTURAL LANDS

A number of the above-mentioned developments will involve conversion of some land currently or formerly used for agricultural purposes to urban uses. As none of the projects is situated on prime agricultural soil, however, and as the City of Chula Vista considers agricultural to be an interim activity on these sites, this cumulative loss of agricultural land is not considered significant.

10.8 HYDROLOGY

Some significant cumulative impacts will result from construction of the Rancho San Miguel development in conjunction with the other projects mentioned above. Each of the residential and commercial developments will create impervious surfaces which will impede rain water from penetrating into the ground, thus increasing the amount of runoff and possibly causing flooding. The impervious surfaces will also prevent precipitation from replenishing the ground water, and will funnel roadway contaminated waters into drainages and eventually into the Sweetwater River and other waterways which in turn flow into estuaries and the ocean. Hydrologic impacts can be offset by implementation of mitigation measures that include hydrologic analysis of the project by a licensed civil engineer, erosion control plans, diversion ditch plans and storm drain plans, all of which would be reviewed by a licensed civil engineer. Impacts to the Sweetwater Reservoir may be lessened by implementation of the Sweetwater Authority Urban Runoff Protection System.

10.9 WATER QUALITY

Assuming proper construction of sewer and runoff water systems (to be approved by the city engineer), quality of drinking water should be largely unaffected by construction of the Rancho San Miguel development in conjunction with the other projects mentioned above, but a slight risk nevertheless exists due to the possibility of malfunctioning or overflow of the sewer. In addition, the "first flush" runoff water, which contains the highest concentration of contaminants such as grease and oils from travelled roadways, will be diverted away from the Sweetwater Reservoir, a primary water source for the area. However, since runoff will be diverted to the Sweetwater River downstream of the reservoir, cumulative impacts to the river's water quality could occur, adversely affecting both fish and plant life. In particular, development along the river could cumulatively impact recreational uses of the waterway and have adverse affects on native plants that are part of the sensitive estuary system at the mouth of the river. Further hydrological and biological investigations would be necessary to determine the significance of impacts due to runoff from urban development along the Sweetwater River.

The other projects present similar water quality risks to the Otay Reservoir, and could potentially aggravate flooding and degraded water quality at lower elevations.

10.10 TRANSPORTATION/ACCESS

These projects will contribute to the overall increase in traffic volumes in the City of Chula Vista and the entire San Diego area. Certain elements of the circulation system are projected to operate below acceptable levels in the future due to cumulative traffic generated by development throughout the city and in nearby areas. While the projects will be required to contribute to the Eastern Chula Vista Transportation Phasing Plan which will implement transportation improvements in the general vicinity of the projects, significant short- and long-term impacts to traffic loads and levels of service are expected.

Available traffic figures for specific projects are provided below:

- The Bonita Long Canyon development is expected to generate approximately 9,045 ADT.
- Development of the Bonita Meadows project is expected to generate approximately 2,790 ADT. However, this project has been on hold for over 2 years.
- Development of EastLake Greens and EastLake Trails is expected to generate approximately 56,735 ADT.
- Development of EastLake I, EastLake I Business Center, and EastLake III is expected to generate 125,279 ADT.
- The Sunbow project is expected to generate approximately 28,708 ADT.
- Rancho Del Rey I, II, and III developments are expected to generate approximately 78,900 ADT.
- The Salt Creek Ranch development is expected to generate 29,950 ADT.
- The Salt Creek I development is expected to generate 4,762 ADT.
- The Otay Ranch development is expected to generate 528,000 ADT.
- The Pointe resort will generate approximately 32,507 ADT.
- The Rancho San Diego Specific Plan will generate approximately 125,437 ADT.
- The Rancho San Miguel development is expected to

generate 29,635 ADT.

Taken together, the projects will contribute approximately 895,500 ADT in eastern Chula Vista. The contribution from adjacent projects under county jurisdiction will be approximately 158,000 ADT. Despite numerous projected road improvements to mitigate impacts and keep the projects in compliance with the city's thresholds, levels of service will inevitably drop at certain intersections, congestion will increase, and vehicular-related noise, emissions, and accidents will increase.

10.11 AIR QUALITY

Significant cumulative impacts will result from construction of the Rancho San Miguel development in conjunction with the other projects mentioned above, as all of these projects will generate domestic and vehicular generated emissions that will aggravate the San Diego Air Basin's existing inability to attain its air quality standards. Vehicular emissions, calculated in terms of the average number of trips to be made on a daily basis (ADT) by the residents of these developments, will constitute 1 to 2 percent of the total emissions generated by all of San Diego County, according to year 2000 projections. This increase constitutes a significant adverse impact of the combined effect of these developments.

Emissions generated by residential and other energy uses (heating, hot water production, fireplaces, etc.) will also incrementally augment levels of NO_x , PM_{10} , CO , SO_x , and ROG in the air basin. As some of the above-mentioned projects are being developed at a higher density than designated in local plans, which were utilized in the SIP, these projects are considered to have significant adverse cumulative impacts on regional air quality. Few, if any, of the projects have included emissions-reducing features such as solar collectors, low- NO_x water heaters, and the elimination of fireplaces from home designs. Incorporation of these features into projects that have not yet been approved would serve to lessen air quality impacts. Additional mitigation measures that have been proposed include the promotion of mass transit use, ridesharing, bicycling and walking.

While each individual project's emissions were considered, at the time of approval, to represent a negligibly small change to the regional pollution burden, considered together these developments and the population (and traffic) increases they foster will contribute significantly to degradation of the county's air quality.

10.12 NOISE

Noise levels would incrementally increase throughout the above-mentioned project areas as one development after another is completed. On the basis of predicted future traffic volumes, noise levels at certain parts of the Rancho San Miguel site would exceed the 65 dBA L_{dn} standard for residential areas, and would thus require mitigation measures in the form of noise walls or wall/berm combinations 7 to 8 feet high or the setting back of residences from roads. After completion of these projects, noise levels in the majority

37,312 hourly
(65) @ 10:30 minutes
on road

of the project areas would be likely to correspond to average levels acceptable for residential uses, higher levels being found only near busy roads where noise walls and/or setbacks could effectively mitigate noise impacts. Predicted future traffic is, however, such that further growth in the eastern territories could, in the long run, lead to noise levels in excess of the city's standards at numerous locations.

At buildout, for example, traffic volumes on SR-125, once completed, will generate noise levels in several residential areas (e.g., Bonita Meadows, Salt Creek I, Rancho San Miguel, etc.) mitigable only by the construction of noise walls as high as 10 feet in certain instances, generally considered to be unacceptable from an aesthetic point of view. This would be a significant impact at these developments.

10.13 COMMUNITY SOCIAL FACTORS

All of the growth associated with the above-mentioned developments has been taken into account by the SANDAG Series VII forecasts for the area and thus cannot be considered to cumulatively have a significant adverse impact on population or employment. Population growth in the area is expected to continue to slightly out-distance growth in employment possibilities. All infrastructural facilities will have to be expanded to accommodate the growth.

10.14 FISCAL ANALYSIS

In conjunction with the other projects mentioned above, development of Rancho San Miguel is expected to have a net positive fiscal impact on the City of Chula Vista. While certain projects cost the city more than they provide during the first few years of construction, revenues generated for the city by development of these projects will exceed costs in the long-term (i.e., after about five years). These revenues are assured by the City of Chula Vista's establishment of a number of one-time development revenues and ongoing development fees to offset its costs, including permit fees related to construction, plumbing, electricity, sewer connections, environmental review, planning, zoning, and engineering; and taxes, licenses, and special fund revenues related to traffic safety, public service, and fuel consumption.

10.15 PUBLIC SERVICES AND UTILITIES

New schools will have to be built as a result of the increase in students residing at all of the above projects, and confirmed funding sources have not yet been identified in many cases. In particular, the elementary school slated to be located on Rancho San Miguel property, and the high school which will be needed due to this and other nearby developments, cannot be constructed with developer fees alone. State sources of funding are few and overburdened at present; Mello-Roos assessment districts have yet to be created to supply the remaining funds necessary for school construction. Financing must be secured far enough in advance so that schools are ready for operation when the various phases of the developments are complete; otherwise, severe negative impacts would occur.

The combined effect of the projects will be to significantly lessen the City of Chula Vista's surplus wastewater transmission capacity, although long-term additional wastewater transmission and treatment capacity are expected to become available after improvements are made in the San Diego County system as a whole. Cumulative impacts to water supply associated with ongoing development on a regional scale are unavoidable and mitigable only on a regional scale, perhaps through wastewater reclamation or desalination to create new water supplies, since the state as a whole has had difficulty meeting its existing water needs due to drought conditions which have persisted for the past several years.

No other significant cumulative impacts on public services and utilities will result from construction of the Rancho San Miguel development in conjunction with the other projects mentioned above, assuming that fire service, police service, sewer lines, solid waste disposal facilities, etc., are expanded as needed and projected

10.16 PARKS, RECREATION, AND OPEN SPACE

Each of the above-mentioned developments within Chula Vista's sphere of influence meets or exceeds the parkland requirements of the City of Chula Vista, and thus no adverse cumulative impact would result to park or recreational thresholds established by the City of Chula Vista. However, all of the projects will contribute to an incremental increase in the area's conversion of open space to urban land uses, constituting a significant unmitigable impact. Mitigation measures that could lessen the severity of this impact include the incorporation of natural open space into project design and the dedication of open space easements to the city or county.

1. *Phragmites australis* (Common reed)
2. *Scirpus americanus* (Common reed)
3. *Phragmites australis* (Common reed)
4. *Phragmites australis* (Common reed)
5. *Phragmites australis* (Common reed)
6. *Phragmites australis* (Common reed)
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19. *Phragmites australis* (Common reed)
20. *Phragmites australis* (Common reed)

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SECTION 11
AGENCIES AND PERSONS CONSULTED IN PREPARING THE EIR

Bonita/Sunnyside Fire District
Richard Yokley, Operations Chief

California State Department of Education
Henry Heydt, Assistant Director of School Facilities Planning Division

California Department of Transportation (Caltrans)

California Department of Fish and Game
Larry Eng
Terry Stewart

Chula Vista City School District (CVCSD)
Kate Shurson, Director of Planning

City of Chula Vista
Engineering Department

Elizabeth Chopp, Associate Civil Engineer
Roger L. Daoust, Senior Civil Engineer
Hal Rosenberg, Traffic Engineer
Clifford Swanson, Deputy Public Works Director

Fire Department

Marty Chase, Assistant Director of Management Services
Carol Gove, Fire Marshal
Samuel Lopez, Fire Chief

Parks and Recreation Department

Jess Valenzuela, Director of Parks and Recreation
Planning Department

Edgar Batchelder, Associate Planner
Bud Gray, Consultant
Robert Leiter, Director of Planning
Barbara Reid, Associate Planner
Doug Reid, Environmental Review Coordinator
Garry Williams, Landscape Planner

County of San Diego
Department of Planning and Land Use
Tom Oberbauer, Regional Planner

Department of Public Works Traffic Engineering

Larry Hurt, County Traffic Engineer
John Puskas, Associate Civil Engineer

Independent Consultant
Ken Weaver

KPMG Peat Marwick
Ron Barbieri, Director of Commercial Consulting Services

Nolte and Associates
Carl Sepponen, Engineer

Otay Water District
Bart Mumford, Planning Manager

P&D Technologies
Arnold Torma, Transportation Director

San Diego Association of Governments
Sue Carnevale

San Diego Gas and Electric
Dave Siino, Senior Land Planner
Richard Heilman, Project Management Specialist

San Miguel Partners
Mary Ellen Gann
Bill Hauf
Wayne Loftus
David Nairne

Sweetwater Authority
Jim Smyth, Principal Engineer
Hector Martinez, Assistant Engineer

Sweetwater Union High School District (SUHSD)
Tom Silva, Director of Planning

U.S. Fish and Wildlife Service
Nancy Gilbert

March 18, 1993

RANCHO SAN MIGUEL GENERAL DEVELOPMENT PLAN
MITIGATION MONITORING REPORT (EIR 90-02)
ERRATA

This item consists of a revised map of mitigation areas. This revised map supersedes the map shown on the last page of the bound Mitigation Monitoring Program. Also attached are a March 16, 1993 memorandum from Pacific Southwest Biological Services Inc. and a letter from David Nairne of San Miguel Partners discussing the revised map.

SAN MIGUEL PARTNERS
Developer of San Miguel Ranch

March 16, 1993

Barbara Reid
Planning Department
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 91910

Re: Modified Mapping for North Mitigation Areas

Dear Barbara:

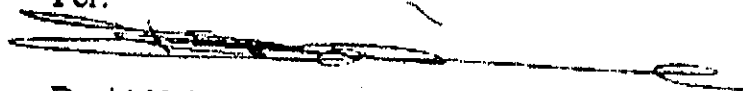
I have reviewed the map provided by Keith to yourself under his memo of March 16th, and it appears to be acceptable. However, I say this on the understanding that the scale of this map is not detailed enough to allow an accurate assessment of all of the parcel edges, and therefore there may be further modifications made as we proceed towards SPA Plan approval.

This adjustment is consistent with the form of the mitigation plan, which specifically points out that the final mitigation areas are subject to review by the agencies as well as by the City, and will need to be further refined to ensure that they contain the resources anticipated in order to meet the preservation test. However, as far as providing you with additional detail at this stage, I do believe these maps are more reflective of the areas we are trying to set aside.

With the caveat that these may be further adjusted, these are maps that are acceptable to be used as responses to the concerns raised by the Department of Fish and Game. If you need anything further please call me.

Yours truly,
First City California-II,
Managing general partner

Per:



David Nairne
Senior Vice President

kw



Pacific Southwest Biological Services, Inc.

Post Office Box 985, National City, California 91951-0985 • (619) 477-5333 • FAX (619) 477-1245

MEMORANDUM

TO: Barbara Reid
Chula Vista Planning Department

FROM: Keith W. Merkel, Vice President

DATE: 16 March 1993

RE: San Miguel Ranch Mitigation Plan

PSBS NO.: 464

I have prepared this memorandum in response to concerns raised by the Department of Fish and Game regarding the identification of open space areas within the northern portion of San Miguel Ranch. Based on concerns regarding open space sizes and uncertainty with respect to minimum preservation areas for the Otay Tarplant, Palmer's Grappling Hook, and Coast Barrel Cactus, I have reviewed the previous mappings and refined boundaries to clarify preserve areas (attached map). This map is in substantial conformance with respect to prior exhibits and as such, I have continued the use of designations such as N1, N2, etc.

In some instances, I have shifted parcel boundaries to include greater concentrations of rare plants without reducing habitat acreage or gnatcatcher preserve values. The summary of preservation lands and resources is as follows:

AREA	SAGE SCRUB	CHAPARRAL	GRASSLAND
N1	10		
N1a	2		3
N1b			4
N2	31		
N2a	22		
N3	7	2.5	
N4	94.5	1.5	
N5	4.0		
TOTAL	170.5	4.0	7.0

These open spaces include the following sensitive species:









California Gnatcatchers	6 pairs
California Adolphia	350 plants
Otay Tarplant	12,800 plants
Palmer's Grappling Hook	1,000 plants
Coast Barrel Cactus	1,250 plants

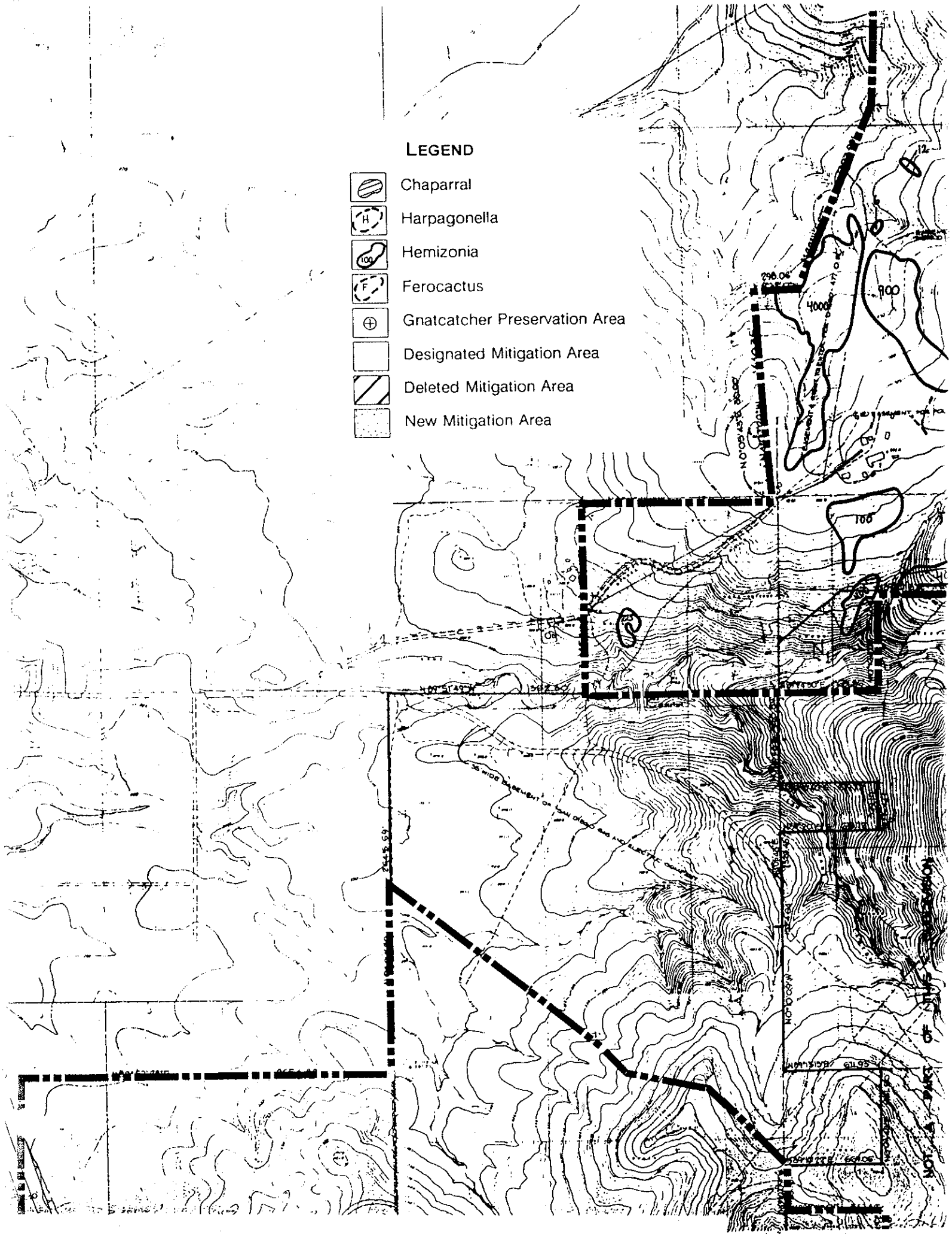
The designation of open spaces has not yet been reviewed by San Miguel Partners and since some of these areas fall within the development envelope for the north, these cannot be considered final until such time as this review is completed. However, I have had an opportunity to review the maps with Barry Jones and have preliminary concurrence from Sweetwater Environmental Biologists.

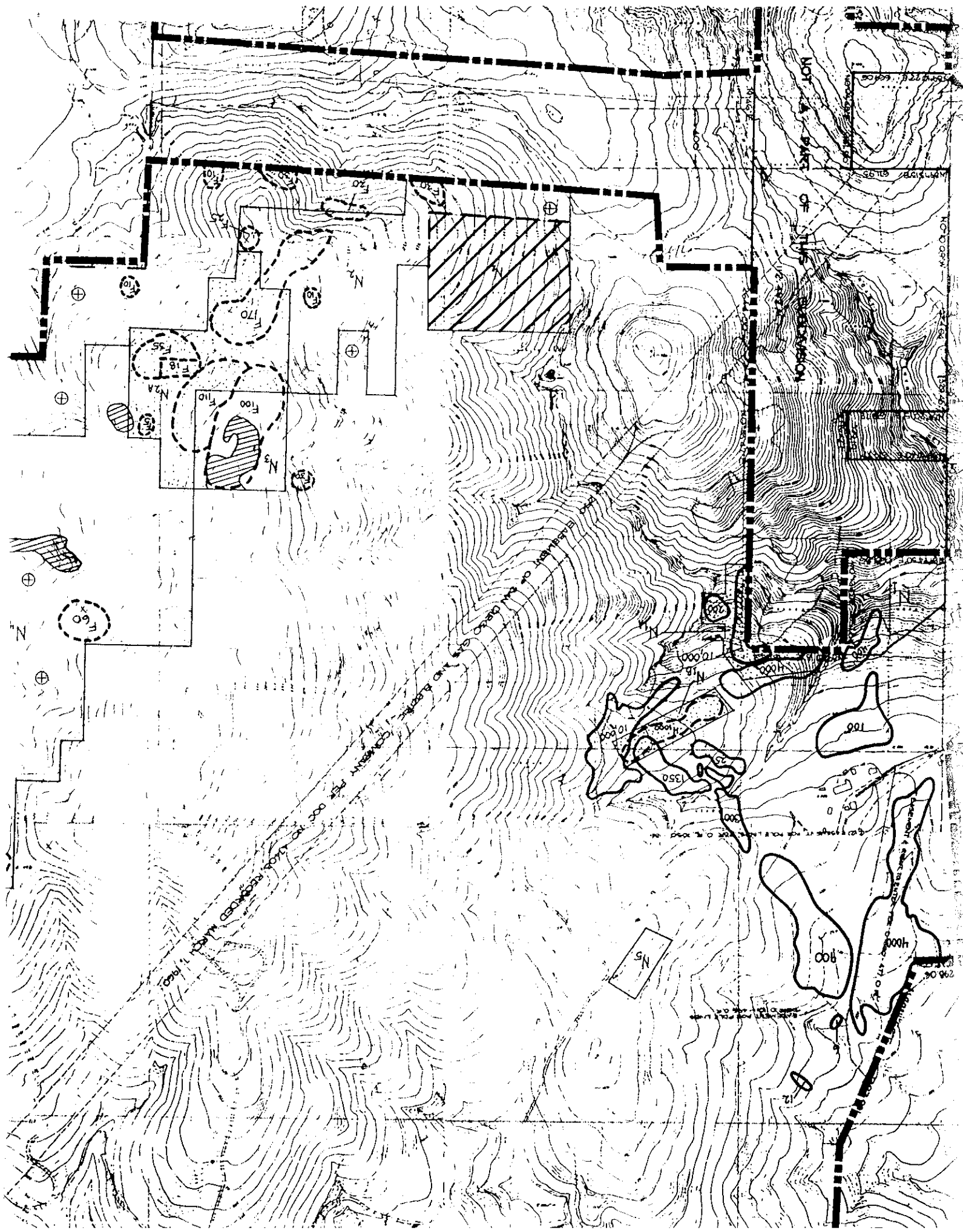
Please review these maps and contact Barry for his input. I will attempt to confirm this information with David Nairne. Thank you for your review.

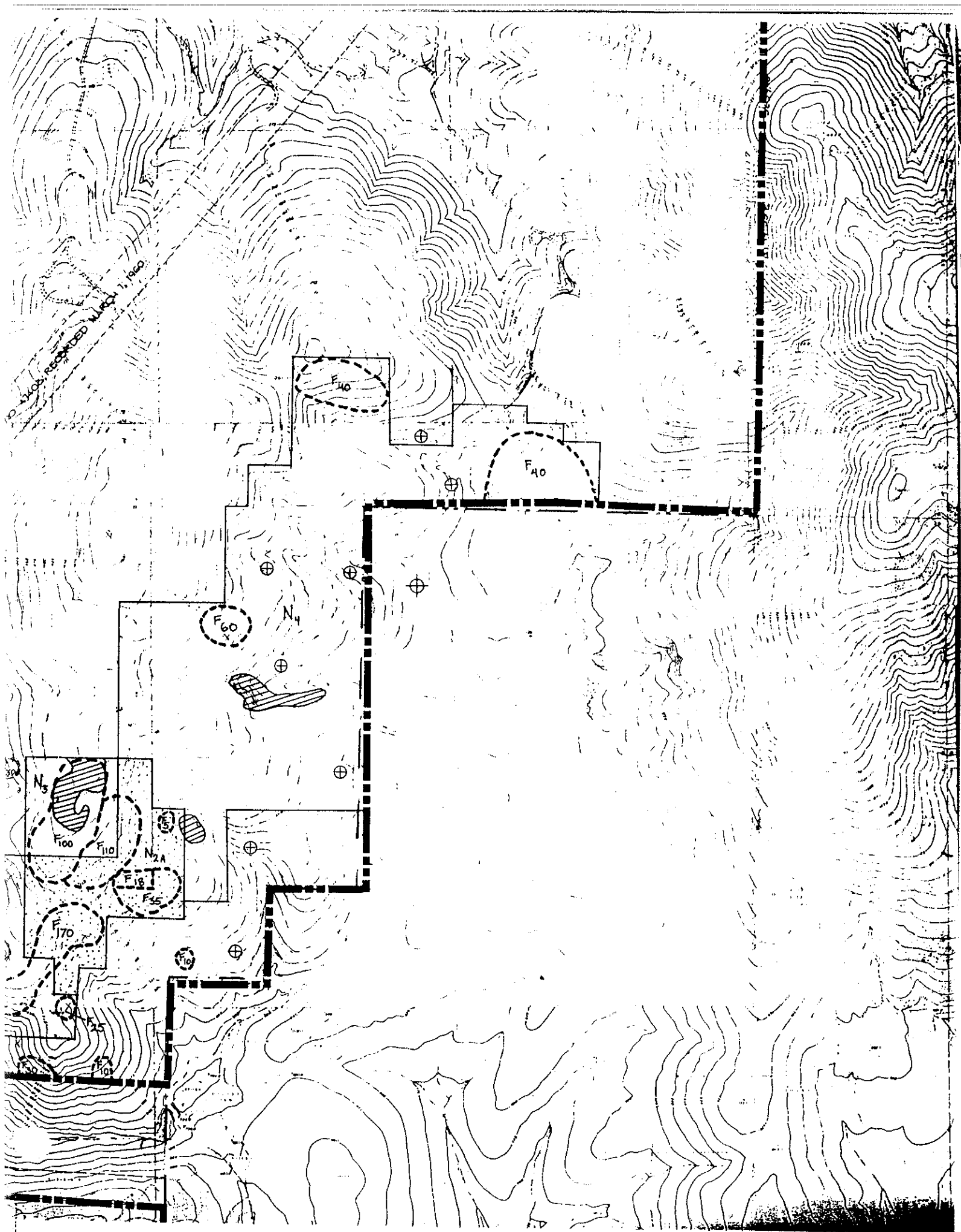
cc: David Nairne, San Miguel Partners
Barry Jones, Sweetwater Environmental Biologists

LEGEND

-  Chaparral
-  Harpagonella
-  Hemizonia
-  Ferocactus
-  Gnatcatcher Preservation Area
-  Designated Mitigation Area
-  Deleted Mitigation Area
-  New Mitigation Area







Rancho San Miguel
General Development Plan
Mitigation Monitoring Report
EIR-90-02

State Clearinghouse No. 90010155



Prepared for:
City of Chula Vista

February 1993

OGDEN
■■■■■

**Rancho San Miguel
General Development Plan
Environmental Impact Report
Mitigation Monitoring Program**

**Prepared for
City of Chula Vista
276 Fourth Avenue
Chula Vista, California 92010**

**Prepared by
Ogden Environmental and Energy Services Co., Inc.
5510 Morehouse Drive
San Diego, California 92121
(619) 458-9044**

**February 1993
Project No. 010651000**

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MITIGATION MONITORING PROGRAM RANCHO SAN MIGUEL GENERAL DEVELOPMENT PLAN

PROGRAM DESCRIPTION AND GENERAL GUIDELINES

This mitigation monitoring program (herein referred to as the "Program") is based on the mitigation required for the Rancho San Miguel General Development Plan (GDP) project as identified in the Rancho San Miguel General Development Plan (GDP) Vol. 3: Supplement to Environmental Impact Report (EIR) (SCH #90010155). The Program is presented in tabular form to simplify verification of the various mitigation and monitoring actions. In some cases, mitigation measures have been summarized from the EIR text. Therefore, reference should be made to the actual EIR text when using the Program. The Program can be used both to verify implementation of the mitigation measures for the proposed project as well as to generate information on the effectiveness of the mitigation measures to guide future mitigation programs.

The Rancho San Miguel GDP is principally regarded as a proposed single-family detached residential community which will provide a range of housing products with lot sizes varying from 7,000 square feet to 1 acre. Development will take place within a 1,852-acre northern portion and a 738-acre southern portion separated by SDG&E property. The GDP proposes 1,619 single-family residences, and also integrates the following proposed components: a 14-acre commercial center; an 11.9-acre elementary school site; a 20.7-acre community park; a community purpose facility; a 7-acre conference center/retreat and inn; a 6-acre interpretive center; pedestrian and bicycle trails connecting Rancho San Miguel to the surrounding community and the Chula Vista Greenbelt; and approximately 1,648 acres of natural open space. It should be noted that the Chula Vista General Plan land use map designated a substantial portion of the northern portion of the project site as open space, consisting primarily of Mother Miguel Mountain and associated steeply sloping lands surrounding the mountain.

Following circulation of the Draft EIR, minor changes to the land development plan for the GDP were made by the applicant. These project refinements were developed in response to comments received from City staff and various commentators during the CEQA public review period, and they resulted in the preparation of a "New Plan", following additional workshop sessions with staff. The "New Plan" incorporates 13 changes to the southern portion, but does not affect or change the northern portion of the Rancho San Miguel GDP.

- Paleontological Resources
- Water Quality
- Hydrology
- Transportation and Access
- Air Quality
- Noise
- Public Services and Utilities
 - Water
 - Sewage
 - Police Protection
 - Fire Protection
 - Emergency Medical Service Protection
 - Elementary and High Schools
- Parks, Recreation, and Open Space

AB 3180 requires monitoring of only those impacts identified as significant or potentially significant. The environmental analysis concluded that impacts to landforms, biological resources, visual quality, and air quality are unmitigable with the project as proposed. The significant and potentially significant impacts for the remaining 8 issue areas of the 13 listed above could be avoided or reduced through implementation of recommended mitigation measures. The following issues, not included in the above list, were determined to have less than significant impacts and require no mitigation: mineral resources; conversion of agricultural lands; community social factors; fiscal analysis; middle and junior high schools; gas and electric services; and solid waste.

PROGRAM PROCEDURAL GUIDELINES

Due to the program nature of the EIR, many of the proposed mitigation measures are necessarily general or will actually be completed during future stages of planning (i.e., development of Specific Planning Area (SPA) plans, and development of actual development plans). Therefore, it is of extreme importance that this programmatic Mitigation Monitoring Program and associated Supplemental EIR be included in the evaluation and development of any future plans, EIRs and mitigation monitoring plans for Rancho San Miguel. This mitigation program is dynamic in that it will undergo changes as additional mitigation measures are identified and additional conditions of approval are placed on the project throughout the project approval process. Although specific monitoring tasks may be carried out by other staff or by consultants to the jurisdiction with responsibility for the project (still to be determined at this time), it is imperative that the

Planning Department with jurisdiction over the project be ultimately responsible for ensuring that the Program, in its entirety, is carried out.

Mitigation Monitoring Team

A monitoring team should be identified once the mitigation measures have been adopted as conditions of approval by the Chula Vista City Council. Managing the team would be the responsibility of the Mitigation Compliance Coordinator (MCC). The monitoring activities will be accomplished by the Environmental Monitors (EMs), Environmental Specialists (ESs), and the MCC. While specific qualifications should be determined by the City of Chula Vista, the monitoring team should possess the following capabilities:

- Interpersonal, decision-making, and management skills with demonstrated experience in working under trying field circumstances;
- Knowledge of and appreciation for the general environmental attributes and special features found in the project area;
- Knowledge of the types of environmental impacts associated with construction of cost-effective mitigation options; and
- Excellent communication skills.

The responsibilities of the MCC throughout the monitoring effort include the following:

- Overall implementation and management of the monitoring program.
- Quality control of the site-development monitoring team.
- Administration and preparation of daily logs, status reports, compliance reports and the final construction monitoring report.
- Liaison between the City of Chula Vista, the Rancho San Miguel developer, and the applicant's contractors.
- Monitoring of onsite, day-to-day construction activities, including the direction of EMs and ESs in the understanding of all permit conditions, site-specific project requirements, construction schedules and environmental quality control effort.
- Ensure contractor knowledge of and compliance with all appropriate permit conditions.
- Review of all construction impact mitigations and, if need be, propose additional mitigation.

- Have the authority to require correction of activities observed that violate project environmental conditions or that represent unsafe or dangerous conditions.
- Maintain prompt and regular communication with the onsite EMs and ESs, and Rancho San Miguel personnel responsible for contractor performance and permit compliance.

The primary role of the Environmental Monitors is to serve as an extension of the MCC in performing the quality control functions at the construction sites. Their responsibilities and functions are to:

- a) Maintain a working knowledge of the Rancho San Miguel permit conditions, contract documents, construction schedules and progress and any special mitigation requirements for his or her assigned construction area;
- b) Assist the MCC and Rancho San Miguel construction contractors in coordinating with City of Chula Vista compliance activities;
- c) Observe construction activities for compliance with the City of Chula Vista permit conditions; and
- d) Provide frequent verbal briefings to the MCC and construction personnel, and assist the MCC as necessary in preparing status reports.

The primary role of the Environmental Specialists is to provide expertise when environmentally sensitive issues occur throughout the development phases of project implementation and to provide direction for mitigation.

Prior to any construction activities, meetings should take place between all the parties involved to initiate the monitoring program and establish the responsibility and authority of the participants. Mitigation measures which need to be defined in greater detail will be addressed prior to any project plan approvals in follow-up meetings designed to discuss specific monitoring effects.

An effective reporting system must be established prior to any monitoring efforts. All parties involved must have a clear understanding of the mitigation measures as adopted and these mitigations must be distributed to the participants of the monitoring effort. Those that

There are a number of options the City of Chula Vista may use to enforce this Program should non-compliance continue. Some methods commonly used by other lead agencies include "stop work" orders; fines and penalties (civil); restitution; permit revocations; citations; and injunctions. It is essential that all parties involved in the Program understand the authority and responsibility of the onsite monitors. Decisions regarding actions in case of non-compliance are the responsibility of the City of Chula Vista,

The following text includes a summary of the project impacts, and a list of all the associated mitigation measures with the monitoring efforts necessary to ensure that the measures are properly implemented incorporated into the measures. All the mitigation measures identified in the Final EIR are anticipated to be translated into conditions of project approval. In addition, once the project has been approved and prior to its implementation, the mitigation measures shall be further detailed.

The following procedures are applicable to the listed stages of project development:

1. Approval of GDP. The Planning Department with jurisdiction over the project shall review the GDP and/or Community (or Subregional) Plan to ensure that all policies, project redesigns and studies that are listed in the Program as necessary at this stage have been implemented and all applicable recommendations incorporated into the project. Where applicable, the last two columns of the Program's Monitoring Table (i.e., Date of Completion and Date of Verification) shall be filled in and signed. The Monitoring Table shall then be copied and included in the files of all subsequent proposed GDP amendments as well as all SPA Plans for further review and verification at the time of the proposed amendment or SPA plan review and adoption.
2. Approval of SPA Plans. The Planning Department with jurisdiction over the project shall review the proposed SPA Plans to ensure that all measures listed in the Program as necessary at the SPA Plan level have been implemented. Where applicable, the last two columns of the Program's Monitoring Table (i.e., Date of Completion and Date of Verification) shall be filled in and signed. The Monitoring Table shall then be copied and included in the files of all subsequent proposed SPA Plan amendments as well as all development plans for further review and verification at the time of the proposed SPA amendment or development plan review and adoption.

3. Approval of Development Plans and Actual Construction. The Planning Department shall review all proposed development plans to ensure that all measures listed in the Program as necessary at the development plan level have been implemented. Where applicable, the last two columns of the Program's Monitoring Table (i.e., Date of Completion and Date of Verification) shall be filled in and signed.

An in-field monitoring program, including all applicable monitoring measures of this Program as well as any subsequent monitoring programs derived at the GDP or SPA Plan level, shall be included and reviewed in conjunction with the development plan application. Prior to any construction activities, meetings shall take place between all the parties involved to initiate the in-field monitoring program and to establish the responsibility and authority of the participants. An in-field monitoring report shall be submitted to the Planning Department for review and incorporation into the reporting methods contained in this Program (i.e., the last two columns of the Program's Monitoring Table shall be filled in and signed).

4. Continuous Monitoring. The Planning Department shall provide a method of continuous monitoring and reporting for those measures that will continue throughout the life of the project (for example the maintenance of landscaping). This method can be contained in existing permitting or enforcement procedures, but must be documented as to how such existing procedures: 1) are applicable to the project; 2) will meet the intent of the mitigation measures; 3) will provide for a reporting requirement; and 4) will be used to correct any unsatisfactory situations.

PROGRAM SPECIFICS

The following table presents mitigation measures in the same order as discussed in the EIR. Time frame, entity responsible for tasks, monitoring effort, and entity responsible for monitoring verification are also listed in the table. Spaces have been left for date of completion and date of verification for each task.

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>Land Use</u>						
1. Develop stormwater management plans, including a proposed runoff protection system.	Development of SPA Plans and prior to the issuance of grading permits.	Project applicant.	Approval of plans by the City and Sweetwater Authority.	City Engineering Department staff.		
2. Project trails shall be reviewed to ensure consistency with City policy to minimize use of trails within SDG&E easements.	Development of SPA Plans and prior to the issuance of grading permits.	Project applicant.	Trail locations will be indicated on grading/landscaping plans which will be reviewed to verify that trails are consistent with the City policy.	City Planning Department and Parks and Recreation Department staff.		
3a. Provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper describing future SDG&E expansion plans, to the extent feasible. The Rancho San Miguel CC&Rs shall also contain information regarding the expansion plans for the SDG&E subdivision to provide disclosure to subsequent home buyers.	Prior to the sale of homes adjacent to the subdivision and transmission lines.	Project applicant.	Project applicant shall be required to submit to the City Planning Department proof that it has notified potential buyers.	City Planning Department staff.		
3b. Achieve general visual separation through a comprehensive buffer plan that includes landscaping, significant topography variation (including use of natural topography as well as berming), and homesite orientation for houses near the SDG&E property. Specific measures are as follows: Establishment of separation of development incorporating landscaped greenbelt or residential collector street; achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses	Preparation of landscaping plans and site plans at the individual project level and prior to issuance of a grading permit.	Project applicant/ licensed landscape architect.	Landscaping plans will be reviewed to verify that a visual separation between the planned homes near the SDG&E property is achieved. Site plans shall be reviewed by the Planning Department to ensure topographic variation, homesite orientation, and height and lot setback restrictions.	City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>3b. (Continued)</p> <p>near the substation property; utilization of graded materials to construct view-screening landscaped mounds; provision for SDG&E to view the final plans so that visual impacts can be better determined and, at that time, additional landscaping and screening may be necessary to mitigate visual impacts.</p>						
<p>3c. Provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvements on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance.</p>	Development of site plans for individual projects.	Project applicant.	SDG&E's future landscaping/grading plans shall be reviewed to verify that appropriate design standards to minimize visual impacts have been included in the plans.	City Planning Department staff.		
<p>3d. Continue to coordinate with SDG&E throughout the processing of SPA Plans for the project.</p>	Throughout SPA Plan process.	Project applicant.	The applicant is to provide the City with dates of meeting with SDG&E and the City.	City Planning Department.		
<p>3e. Obtain the applicant's commitment to not oppose SDG&E's decision to process its expansion plans through the City provided that: (i) this project's processing time is not delayed as a result of SDG&E's processing; (ii) the City treats the two projects as separate processes, with separate hearing schedules; and (iii) SDG&E's processing is not conducted at the applicant's expense.</p>	SPA level.	Project applicant.	Applicant will supply the City with a statement that they will not oppose SDG&E's expansion plans.	City Planning Department.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
4. To ensure consistency with the Housing Element of the City's General Plan, the project applicant will explore in an affordable housing program, methods to devote 10 percent of the dwelling units to low and moderate income housing; provide equivalent offsite mitigation, or pay fees as determined through the submission of a proposal.	Part of the SPA Plan development.	Project applicant.	The inconsistency with the General Plan due to the lack of affordable housing for the Rancho San Miguel GDP will be corrected upon satisfaction of the City's performance criteria.	City Planning Department staff.		
<u>Landform/Visual Quality</u>						
1a. A grading plan shall be prepared that describes grading techniques for the proposed interpretive and conference centers.	Development of SPA Plans.	Project applicant.	An engineer/environmental specialist will monitor development of the interpretive and conference center sites during the site preparation stage to verify that the grading plan specifications are being met.	City Engineering Department staff/Planning Department staff/MCC.		
1b. The SPA Plans shall include measures for any landform and visual impacts associated with grading plans for the proposed interpretive and conference centers.	Development of SPA Plan which includes proposed interpretive and conference center sites and during preparation of individual project plans.	Project applicant.	Final landscape plans prepared at the project-specific level shall be reviewed to verify that measures are included to reduce any landform/visual impacts associated with grading for the proposed centers.	City's Landscape Architect/Planning Department staff.		
2. The SPA Plans must include measures to reduce impacts associated with the placement of water tanks. The location of such water tanks will be determined at the SPA Plan level upon completion of a Water Master Plan.	Development of Water Master Plan at the SPA Plan level and during preparation of individual project plans.	Project applicant.	Landscape plans shall be reviewed to verify impacts associated with the proposed water tanks are mitigated.	City Planning Department staff.		
3. The applicant must demonstrate compliance with Hillside Development Guidelines.	Development of SPA Plans and individual project plans.	Project applicant.	Final landscape plans will be reviewed to verify compliance with the City's Hillside Development Guidelines. Field inspections will occur during grading operations at the site.	City's Landscape Architect and City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
4. Implementation of landscaping and development plans consistent with General Plan guidelines for scenic roadways.	Development of site plans for individual projects and prior to issuance of grading permits.	Project applicant.	Landscaping and development plans will be reviewed for their consistency with the General Plan guidelines for scenic roadways prior to issuance of grading permits.	City Planning Department staff.		
5. Adequate buffer must be provided to achieve general visual separation through landscaping, topographic variation and homesite orientation for the lots along the northern perimeter of the southern portion, where views would change as a result of the future expansion of SDG&E facilities.	During SPA Plan processing.	Project applicant.	SPA Plans shall be reviewed to verify that adequate buffering is provided between residential development and the substation. At the individual project level, review of final plans and field checks shall be conducted to ensure buffering measures have been incorporated.	City Planning Department staff.		
6. The following buffering measures are recommended by SDG&E:						
• Establishment of separation by development setbacks incorporating landscaped greenbelt or residential collector street;	During SPA Plan processing.	Project applicant.	SPA Plans shall be reviewed for consistency.	City Planning Department staff.		
• Achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses near the substation property;	During SPA Plan processing	Project applicant.	SPA Plans shall be reviewed for consistency.	City Planning Department staff.		
• Utilize graded materials to construct view-screening landscaped mounds;	During SPA Plan processing	Project applicant.	SPA Plans shall be reviewed for consistency.	City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> Provide grading site plans and other information to SDG&E to assist in their efforts to develop future improvement on their site and corresponding landscape, or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance; 	During SPA Plan processing	Project applicant.	SPA Plans shall be reviewed for consistency.	City Planning Department staff.		
<ul style="list-style-type: none"> Continue to coordinate with SDG&E throughout the processing of SPA Plans for this project. 	During SPA Plan processing	Project applicant.	SPA Plans shall be reviewed for consistency.	City Planning Department staff.		
<ul style="list-style-type: none"> SDG&E requests the opportunity to view the final plans so that visual impacts can be better determined. 	During SPA Plan processing	Project applicant.	Transmit final plans to SDG&E for review and review the comments received from SDG&E.	City Planning Department staff.		

Biological Resources

THE ACTUAL LEVEL OF MITIGATION IN THE NORTH PARCEL COULD BE AS MUCH AS 100 PERCENT PRESERVATION FOR SOME SPECIES IN ORDER TO ACHIEVE A FINDING THAT THE IMPACTS FALL BELOW A LEVEL OF SIGNIFICANCE UNDER CEQA AND THAT THE CITY MAY REQUIRE THIS LEVEL OF MITIGATION. THIS SIGNIFICANCE DETERMINATION SHALL BE MADE A PART OF THE SUPPLEMENTAL EIR FOR THE APPLICANT'S SPA PLAN.

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>Wetlands</u>						
1. Any filling of wetlands will require a 1603 Agreement between project applicant and CDFG. A pre-discharge notification would have to be submitted to the Army Corps of Engineers (ACOE) and a 404 permit may be required.	Development of site plans for individual projects and prior to issuance of grading permit.	Project applicant.	A wetland revegetation specialist must be obtained to prepare a Wetland Revegetation Plan. The project biologist shall monitor work within the wetland habitat during grading operations and the site preparation phase.	CDFG, ACOE City Planning Department staff.		
Impacts within the project can be reduced by placement of wetlands occurring within proposed residential lots in open space easements and providing adequate buffers. All unavoidable impacts must be mitigated by creation of onsite wetland habitat. Drainages that receive runoff from housing may be considered for the location of created wetlands. Minimization of impacts shall be accomplished with a comprehensive program to replace and enhance wetland habitat under a Wetland Revegetation Plan. Total created wetland would have to be at a replacement ratio of a minimum of 1:1.	Prior to approval of SPA Plan.	Project applicant/wetland revegetation specialist.	Evaluation of effectiveness of Wetland Revegetation Plan.	City Planning Department staff, CDFG, ACOE.		

2. To partially mitigate for impacts to wetlands, the guidelines on the following page shall be followed.

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>2.1 Mitigation of wetland impacts in the southern parcel is to be primarily accomplished by avoidance measures. In order to compensate for 0.5 acre of dry alkaline marsh occurs in the southern parcel which cannot be avoided by the project, additional wetlands of a similar type will be increased within an area designated as open space in the southwestern portion of the north parcel (Figure 3.1-3 of the Supplemental EIR). This area totals approximately 10 acres and supports a very narrow channel bounded by non-native grassland upstream of an existing pond. This mitigation site would involve the reconfiguration of the northern development envelope at this location to eliminate encroachment by 5 lots.</p>	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	U.S. Dept. of Fish and Wildlife/City Planning Department staff/MCC.		
<p>2.2 A small detention basin is to be constructed on this channel to create a seasonal impoundment pond. The basin will be revegetated by Mulefat, San Diego Marsh Elder, and Southwestern Spiny Rush. Similar habitat occurs elsewhere on this channel and as such, it is expected that such mitigation may be readily accomplished in this location. Mitigation is to be completed on a 1:1 area and value basis as recommended by the DEIR.</p>	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	U.S. Dept. of Fish and Wildlife/City Planning Department staff/MCC.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
2.3 Impacts to wetlands in the northern parcel must be avoided to the extent practicable. The reduction of impacts would occur during the SPA Plan review level, and any impacts may require a 1603 agreement and possibly a 404 permit. Until these minimization measures are resolved at the SPA level, a specific revegetation plan cannot be developed.	At the SPA level process.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness at the SPA level.	U.S. Dept. of Fish and Wildlife/City Planning Department staff/MCC.		
2.4 San Diego Marsh Elder is to be used as a primary component in the creation of a 0.5-acre wetland mitigation site within open space area N1 (Plate 4). A minimum of 1:1 numerical replacement of plants impacted shall occur within the created wetland area. The mitigation area shall use both seed and container stock in the restoration program. Successful completion of this mitigation measure shall be the survival of not less than 30 individuals of this species at the restoration site over a 5-year period. Annual monitoring shall be conducted for a period of 5 years during the spring with reports being submitted within one month of each monitoring to the City.	Prior to issuance of required permits and environmental approvals. Mitigation at the SPA level will be required to include preserve design criteria.	Project applicant	Review of Wetland Vegetation Replacement Plans.	MMC/biologist.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>2.5 Southwestern Spiny Rush is to be used as a primary component in the creation of a 0.5-acre wetland mitigation site within open space area N1 (Plate 4). A minimum of 1:1 numerical replacement of plants impacted shall occur within the created wetland area. The mitigation area shall make use of site collected seed in the restoration program. Successful completion of this mitigation measure shall be the establishment and survival of not less than 15 individuals of this species at the restoration site over a 5-year period. Annual monitoring shall be conducted for a period of 5 years during the spring with reports being submitted within one month of each monitoring to the City.</p>	<p>Prior to issuance of required permits and environmental approvals, mitigation at the SPA level will be required to include preserve design criteria.</p>	<p>Project applicant/biologist.</p>	<p>Mitigation plans shall be reviewed for effectiveness.</p>	<p>U.S. Dept. of Fish and Wildlife/City Planning Department staff/MCC.</p>		
<p>2.6 The recommended mitigation replacement ratio is a minimum of 1:1. This ratio is based upon the generally low to moderate quality of wetland habitats being impacted, and is not inconsistent with acceptable mitigation measures for impacts to similar quality wetlands in southern California. The ratio is considered the minimum to meet the "no net loss" criteria for both federal and state reviewing agencies.</p>	<p>Prior to issuance of required permits and environmental approvals.</p>	<p>Project applicant/biologist.</p>	<p>Mitigation plans shall be reviewed for effectiveness.</p>	<p>U.S. Dept. of Fish and Wildlife/City Planning Department staff/MCC.</p>		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>Otay Tarplant</u>						
3. On the northern parcel, a minimum of 65 percent of the Otay tarplant shall be retained <i>in situ</i> in open space (approximately 15,600 plants). In addition, two major groupings of Otay Tarplant on the northern parcel, 1) an area of approximately 10,000 plants located in the southeastern portion of the development area on the northern parcel (See Figure 3.3-3 in the Supplemental EIR), and 2) an area of approximately 2,000 plants also located in the southeastern portion of the development area on the northern parcel (See Figure 3.3-3 in the Supplemental EIR). These two groupings shall be placed in permanent open space or as part of an Otay tarplant restoration plan as partial mitigation for impacts to Otay tarplant on the southern parcel. This will result in onsite preservation of at least 80 percent of the Otay tarplant for the northern parcel.	Specific plan for preservation including preserve design criteria is to be established at SPA level. Actual implementation is required prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Review of plan.	City Planning Department/MCC/U.S. Department of Fish and Wildlife/California Fish and Game.		
4. To partially mitigate for impacts to Otay tarplant on the southern parcel, the following guidelines shall be followed.						
4.1 A reduction in the development envelope is proposed in the southwestern portion of the site and a designation of open space is proposed to include tarplant populations (open spaces S1, S2, and a small portion of S3 as shown in this MMP).	Specific plan for preservation including preserve design criteria is to be established at SPA level. Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	U.S. Dept. of Fish and Wildlife/City Planning Department staff/MCC.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
4.2 Approximately 10 acres of residential development opportunity will be set aside and 5 acres of open space proposed as a development opportunity will be left as open space for a total of 15 acres, in addition to the existing SDG&E right-of-way of approximately 8 acres (not counted toward project mitigation) (open space S2). The proposed mitigation area would include approximately 42,000 (29%) of the 144,000 plants occurring within the southern parcel.	Prior to issuance of required permits and environmental approvals. At the SPA level, a plan which shows the preserve design is required.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	U.S. Dept. of Fish and Wildlife/City Planning Department staff/MCC.		
4.4 Mitigation area S2 (as shown in this MMP) shall be protected by a fence as deemed appropriate by the City's biologist. The fence shall be gated by keyed access to allow for SDG&E access to their existing utility easement. The easement area shall be fenced with a barbed wire fence to restrict general access by SDG&E into the tarweed reserve areas. The periphery of the site should be posted to notify the public of the presence of rare species.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
The northern mitigation areas will be precisely delineated at the SPA level. Fencing of these areas will be required if any development of the north occurs in proximity to the mitigation areas.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
4.5 Fuel management shall be conducted solely outside of the mitigation area.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
4.6 Plant materials to be used in the adjacent areas are to be of a non-invasive nature and shall be subject to review by a qualified biologist prior to approval of a specific plan. All species shall be confirmed to be compatible with the surrounding area. Native species are favored for this purpose.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
4.7 Interior to the restoration area fence, a direct management program is to be undertaken to remove aggressive competitive exotic species including thistle and to replace these plants with compatible native elements typical of clay field environments. Weedy species are to be removed prior to their going to seed in the late spring. A seed mix of Purple Needlegrass, Blue Dicks, and Olay tarweed is to be dispersed on the site during the month of November. Bulbous species should also be planted if available. Around the periphery, planting shall include adolphia shrubs to further restrict access and general use of the site.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
4.8 The surrounding areas shall be drained away from the site using brow ditches and irrigation systems should be designed to prohibit any overcasting into the site.	Prior to issuance of required permits and environmental approvals.	Project applicant/ biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
4.9 Intermittent sheep grazing may be used as a part of the management program for the site. Grazing shall be managed by a trained biologist to ensure that seed has been dropped prior to allowing grazing to occur. This grazing may occur for a period of up to two to four weeks per year.	Prior to issuance of required permits and environmental approvals.	Project applicant/ biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
4.10 An annual monitoring and maintenance program shall be implemented to ensure that exotic weeds are kept under control and the fencing is maintained. This program shall be funded as a part of the maintenance assessment district. Work is to be undertaken only by a qualified biologist with experience in managing rare plant populations.	Prior to issuance of required permits and environmental approvals.	Project applicant/ biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
4.11 A Section 2081 Memorandum of Agreement will be entered into by CDFG and the developer relative to management of the species within the preservation areas at the SPA Plan level of CEQA review, and consistent with the foregoing conditions.	Prior to issuance of required permits and environmental approvals.	Project applicant/ biologist.	Mitigation plans shall be reviewed for effectiveness.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>Coast Barrel Cactus</u>						
5. To avoid significant adverse impacts to barrel cacti, the areas supporting the largest numbers should be excluded from the development area. These areas are in the northeast and southeast corners of the proposed development area in the south section and in the west-central and northwest parts of the north section. The project would have to be redesigned to avoid these areas.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	If project is redesigned to avoid loss of barrel cacti, it will be subject to CEQA review and approval by the project biologist.	MCC		
6. The estimated 1,647 cacti anticipated to be impacted by the southern parcel development would be transplanted to roadways, trails and margins of existing cacti stands in the south parcel S4 open space as shown in this MMP. Salvaged plants are to be transplanted into existing areas of the south open space in a manner which assists in restoring disturbed roadways currently occurring on the crest of the southern knoll.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist	Review of transplantation plans.	City Planning Department/-MCC		
7. The following guidelines are to govern the mitigation of coast barrel cactus within the San Miguel open space. These criteria address open space protection and transplant techniques and receive site designations. The guidelines also identify requisite monitoring and success criteria for transplanted materials.						
7.1. No less than 2,471 cacti shall be preserved <i>in situ</i> within open spaces designated as N2, N3, N4, S1, S3, and S4.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist	Preservation of 1735 cacti <i>in situ</i> within open spaces designated as N2, N3, N4, S1, S3, S4.	MCC/City Planning Department staff		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>7.2. Open space S1, S3, and S4 shall be individually fenced on the development area side to prevent general access into these open space areas. Fences which define the owner usable portion of the development envelope shall be of a wooden or block wall construction type and shall be installed prior to the sale of any individual lots. Fences along roadways or along the SDG&E easements should be set back from the edge of the roads no less than 25 feet and should be of an open nature to allow large mammal crossing.</p>	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist	Placement of fences to define owner usable areas.	MCC/City Engineering Department/City Planning Department		
<p>7.3. All fuel management activities are to occur within the pad and identified limits of owner use areas adjacent to all open spaces.</p>	Prior to issuance of required permits and environmental approvals.	Project applicant	Maintain fuel management activities outside of open space areas.	MCC/City Planning Department staff		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>7.4. The limits of grading shall be established by flagging and erection of a single strand heavily flagged construction fence around the entire perimeter of all disturbance areas. Prior to the initiation of grading, all identified barrel cactus within proposed areas of grading shall be marked on the north side for orientation and salvaged for transplanting. A mitigation monitor shall inspect the site following completion of the salvage operation to ensure that all identified cacti have been removed for subsequent transplant. Once the city has determined that all cacti have been removed, grading shall be allowed to proceed.</p>	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist	Approval of barrel cactus salvage operation.	MCC		
<p>7.5. Salvaged cacti shall be transplanted into suitable sites along the ridgeline within the S4 mitigation area. Care is to be taken to ensure proper orientation of the cacti to prevent sunburning of the plants. It is estimated that .038 acre of suitable receiver area shall be required within the open space in order to plant cacti on an average density of 1 cactus/m². This open space supports numerous roadways through ridges bounded on both sides by cacti. The target restoration areas would be these roadways.</p>	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist	Transplantation of cacti along ridgeline within S4 mitigation area. Approval of project biologist.	MCC		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>7.6. Restoration sites shall be protected from vehicular traffic by directional signage and use of barrier posts to block access through the restoration area. Large cholla cacti are to be used around the barriers and throughout the roadway to develop habitat for cactus wren mitigation and will also serve to curb vehicular traffic. Areas are to be further seeded with an open sage scrub seed mix to include: deerweed (<i>Lotus scoparius</i>), white sage (<i>Salvia apiana</i>), and plantain (<i>Plantago erecta</i>) to assist in eliminating the appearance of a roadway, while not resulting in a competitive dominance of tall statured shrubs. This area does not naturally support dense vegetation, so it is unlikely that such will naturally develop over time.</p>	<p>Prior to issuance of required permits and environmental approvals.</p>	<p>Project applicant/ biologist</p>	<p>Evaluation of restoration plan success.</p>	<p>MCC</p>		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
7.7. Restoration efforts shall be monitored annually in the spring concurrent with the Adolphia monitoring for a period of 5 years and shall document the status of the mitigation site. Success shall be the survival of no fewer than 75% of the transplanted cacti and the general trend towards recovery of abandoned roadways in a manner which would suggest long-term recovery of the site. Annual monitoring reports shall be submitted to the City within one month of each monitoring event.	Over 5-year period following implementation of restoration program.	Project applicant/biologist	Evaluation and monitoring of restoration plan success.	MCC		
8. On the northern parcel, a minimum preservation level of 60 % <i>in situ</i> and transplantation of the remaining cacti to proposed open space areas onsite shall be required. Analysis of whether impacts are reduced to below a level of significance shall be undertaken prior to SPA review.	Prior to approval of SPA Plan.	Project applicant/biologist.	Evaluation of effectiveness of presentation and transplantation programs for coast barrel cactus in northern portion.	MCC/City Planning Department staff		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>Palmer's Grappling Hook</u>						
9. At least partial mitigation for Palmer's grappling hook shall be achieved by preservation of approximately 1,000 plants on the southwestern corner of the development area on the northern parcel as biological open space. If any development on the northern parcel occurs in close proximity, a minimum 50-foot buffer shall be provided, and fencing shall be placed around the entire preserve area. Plant materials used in adjacent areas for landscaping shall be subject to review by a qualified biologist prior to approval of a specific plan. Interior to the restoration area fence, a direct management program will be implemented to remove aggressive competitive exotic species. The surrounding areas shall be drained away from the site using brow ditches.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Project redesign to avoid loss of Palmer's grappling hook would require CEQA review and approval by the project biologist.	MCC/City Planning Department staff.		
<u>California Adolphia</u>						
10. A minimum of 50% of the areas where California adolphia occur should be retained in biological open space. Project redesign would reduce impacts to California adolphia to below a level of significance on the southern parcel.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Project redesign to avoid loss of California adolphia would require CEQA review and approval by the project biologist.	MCC/City Planning Department staff.		
Establish a mitigation area supporting a population with an estimated total of 350 Adolphia plants in the southwestern portion of the northern parcel.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Evaluate effectiveness of mitigation area.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
11. Incorporation of approximately 40 shrubs into the open space on the eastern portion of the southern parcel. In this and the preceding mitigation measure, plants would be preserved away from development.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Evaluate effectiveness of mitigation area.	MCC/City Planning Department staff.		
12. Plant young Adolphia seedlings in the periphery of the preserved roadways and weedy clay grassland habitat adjacent to these populations. Use adolphia as a buffer around Otay tarplant populations. Mitigation at the SPA level is to include preserve design.	At SPA level and prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Evaluate preserve design at SPA level. Evaluate effectiveness of mitigation area.	MCC/City Planning Department staff.		
13. The following guidelines are to govern the treatment of Adolphia mitigation areas within the San Miguel Ranch site. Specific mitigation detail is to be developed at the SPA Plan level in conformance with the following standards:						
13.1. Open space designated as N1 is to be fenced in a manner acceptable to the City along all sides of the open space which face roadways. Fences which define the owner usable portion of the development envelope shall be of a wooden or block wall construction type and shall be installed prior to the sale of any individual lots. Fences adjacent to wildlife crossings shall be set back from the edge of the road no less than 25 feet and should be open to allow large mammal crossing.	Specific mitigation detail is to be developed at SPA level. At SPA level evaluate mitigation detail. Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Evaluate effectiveness and suitability of fencing.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
13.2. All fuel management activities are to occur within the pad and identified limits of owner use areas adjacent to all open spaces, but specifically open space N1 and S4 for the purpose of the Adolphia mitigation program.	Specific mitigation detail is to be examined at SPA level. Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Evaluate fuel management plan.	MCC/City Planning Department staff.		
13.3. Not less than 300 seeding Adolphia shall be planted around the periphery of the preserved population occurring in the N1 open space. Plants shall be of either a liner/plant band or 1 gallon container size. Planting shall occur no later than December of the first year following initiation of grading within the southern parcel. All transplanting shall occur during the winter rainy season to maximize plant establishment and growth potential.	Specific mitigation detail is to be examined at SPA level. Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Evaluate effectiveness and suitability of transplantation program.	MCC/City Planning Department staff.		
13.4. Transplanted Adolphia shall be monitored annually in the spring for a period of 5 years to ensure successful establishment and continued growth. Success shall be determined by the survival and growth over the 5 year period of no less than 30% of the plants. Annual monitoring reports shall be submitted to the City within one month of each monitoring event.	Specific mitigation detail is to be examined at SPA level. Once a year following transplantation for 5 years in the spring.	Project applicant/biologist.	Monitor success of transplantation program.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
13.5. Long-term maintenance of fencing shall be required as part of the mitigation program.	Monitor once a year in the spring for each of 3 years.	Project applicant/biologist.	Monitor effectiveness and suitability of fencing.	MCC/City Planning Department staff.		
<u>San Diego Cactus Wren</u>						
14. The NCCP shall determine appropriate mitigation of cactus wrens. If the NCCP does not come to fruition, the following measures shall apply:	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Project redesign to avoid loss of cactus wren would require CEQA review and approval by the project biologist.	MCC/City Planning Department staff.		
<u>North Parcel</u>						
<p>To reduce significant impacts to the cactus wren, the project must be re-designed to impact no more than one pair of cactus wrens. All remaining occupied cactus thickets containing 6 pairs of wrens shall be placed within contiguous biological open space. Cactus stands which are to be impacted by the project will be transplanted to expand and enhance the cactus wren populations in areas adjacent to existing populations in the north. To determine the appropriate mitigation area, a qualified biologist shall monitor the activity patterns of the impacted cactus wren and in the remaining territories in the north to determine boundaries of the home ranges and to characterize the important elements of home range usage. Subsequent to the restoration, the mitigation area shall be monitored for a period of five years to ensure successful establishment of the habitat. Existing occupied thickets lie in the</p>						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
west central and north portions of the north section. Mitigation at the SPA level will be required to include preserve design criteria.						
<i>South Parcel</i>						
Three pairs of cactus wrens shall be preserved located in area S4. Cholla stands which are to be impacted by the project will be transplanted to expand and enhance the cactus wren populations in the south parcel S4 open space. Transplanted cactus habitat shall be created in disturbed areas of the south parcel open space over an area equal to or exceeding the use area of the cactus wren pair to be displaced prior to elimination of the existing occupied habitat onsite.						
15. The following parameters shall form the basis for studies to be conducted on the on-site coastal cactus wrens and shall form the basis for the final cactus wren mitigation program development. In that a study to document characteristics of wren habitat is to precede the determination of the ultimate appropriate restoration measures for this target species, the guidelines below should be considered a working framework with minimal milestones to be finalized at the subsequent specific plan stage.						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
15.1 Three pairs of coastal cactus wrens are to be protected within the S4 open space identified in this MMP. This open space is to be fenced along the development sides to prevent general access.	At SPA level, preserve design criteria is required. Prior to issuance of required permits and environmental approvals.	Project applicant/ biologist.	Determination of the appropriate area for protection of cactus wren.	MCC/City Planning Department staff.		
15.2 A monitoring program shall be implemented to characterize habitat requirements of coastal cactus wrens. The study shall include an analysis of the three cactus wren pairs in open space S4 as well as the one pair to be impacted in the southern development area. The monitoring program shall run for a period of one year. An interim report shall be prepared to detail the results of the first 6 months of monitoring. This report shall be completed and submitted to the City, USFWS, and CDFG. The results of this report shall be used to establish mitigation criteria for SPA approvals. A final report is to be completed and shall form the basis for final mitigation designs and grading permit issuance in the development area supporting the cactus wren pair. The program shall include the following:	Prior to issuance of required permits and environmental approvals.	Project applicant/ biologist.	Determination of the appropriate area for protection of cactus wren and to determine appropriate restoration measures for this target species.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
a) Weekly monitoring and home-range use studies of each of the 4 territories shall be conducted for a period of no less than 2 hours/territory/interval for at least a one-year period. Monitoring periods are to be staggered to ensure all diurnal periods are covered for each pair. Studies are to include a documentation of activity budgets (ie. foraging, displaying, defending, roosting, breeding, etc.), an identification of time spent on each primary plant taxa occurring within the territory, and an identification of home-range size, shape and location over the course of the year using occurrence frequency data.	1 year period beginning in October.	Project applicant/biologist.	Determination of the appropriate area for protection of cactus wren and appropriate restoration measures for this target species.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
b) Vegetation characterization of each home-range is to be completed during the pre-breeding spring months of 1993. This work shall include a documentation of percent composition of various elements, frequency distribution of elements, height structure, and similarity between territories. Work is to be completed along 50 meter line intercept transects distributed randomly within home-ranges. The number of transects to be used in each territory shall be determined based on territory size and homogeneity.	Breeding Season Spring months 1993	Project applicant/ biologist.	Determination of the appropriate area for protection of cactus wren and determination of ultimate appropriate restoration measures.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
c) An analysis of existing territory sizes and recommendations for restoration of a territory within open space S4 as a compensation territory. This recommendation shall be based on observed activities and conditions within occupied territories and shall include a consideration of "favored" habitat elements and territorial boundary interactions. The report shall also consider existing restoration technology and shall make recommendations as to the most appropriate restoration techniques to maximize success. This report shall include a habitat restoration plan which provides specific guidance on creating a suitable habitat for cactus wrens and appropriate maintenance, monitoring and success milestones.	Oct 1992 - Dec 1993	Project applicant/ biologist.	Determination of the appropriate area for protection of cactus wren.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>California Gnatcatcher</u>						
16. Mitigation for losses of the California gnatcatcher will be accomplished only through dedication of important tracts of the species' habitat into natural open space. These tracts must be linked in a network to allow for the birds' dispersal, maintenance of populations sufficiently large to be self-sustaining, and population recovery after the fires which inevitably sweep through native scrub. Because Rancho San Miguel is a major part of a core gnatcatcher habitat, reductions to below a level of significance can be accomplished only through a project redesign that leaves a significant majority of the pairs and their habitat in natural open space.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Project redesign to avoid loss of the California gnatcatcher would require CEQA review and approval by the project biologist.	MCC/City Planning Department staff.		
<u>South Parcel</u>						
17. Preservation of nine pairs of gnatcatchers within identified open space areas N2, N4 and S4 (as shown in this MMP).	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation for impact of 6 pairs of gnatcatchers in the south.	MCC/City Planning Department staff.		
18. Development of preserve design criteria and adjustment of final configuration of open spaces to ensure preservation of appropriate habitat and number of birds.	Prior to approval of SPA Plans.	Project applicant/biologist.	Mitigation for impact of 6 pairs of gnatcatchers in the south.	MCC/City Planning Department staff.		
19. Fencing of open space on the southern parcel along the edge facing development.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation for impact of 6 pairs of gnatcatchers in the south.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
20. Fuel maintenance shall be restricted to areas outside of open space.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Evaluate effectiveness and suitability of fuel management plan.	MCC/City Planning Department staff.		
<i>North Parcel</i>						
21. If the project goes forth prior to the NCCP being completed, the following will be required:						
21.1 Redesign of project to leave at least 80% of the existing pairs, 80% of occupied gnatcatcher habitat and 50% of unoccupied potential breeding gnatcatcher habitat in natural, contiguous unfragmented open space.	Mitigation at SPA level will be required to include preserve design criteria. Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation for impact of gnatcatchers in the north.	MCC/City Planning Department staff.		
21.2 Any loss of existing pairs, occupied gnatcatcher habitat or unoccupied potential breeding gnatcatcher habitat shall require mitigation onsite through creation of permanent open space preserves at a mitigation ratio of 2:1 and subject to a long term maintenance management program.	Mitigation at SPA level will be required to include preserve design criteria. Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation for impact of gnatcatchers in the north.	MCC/City Planning Department staff.		

Diegan Coastal Sage Scrub

22. To partially mitigate for impacts to coastal sage scrub, the following guidelines shall be followed.

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
22.1 The mitigation of Diegan Sage Scrub is to be accomplished by a combination of preservation in both the north and south parcels to a total of 2:1 preservation to impact ratio for sage scrub habitat. In addition, habitat is to be identified and preserved in a manner which replaces sage scrub occupied or suitable for occupation by California gnatcatchers by habitat that is also occupied by gnatcatchers. Where habitat is unoccupied then replacement may be suitably accomplished by preservation of similarly unoccupied habitat identified on-site. The preservation of habitats is to be accomplished in accordance with Table 1.	Prior to issuance of required permits and environmental approvals. Preserve design criteria to be established at SPA level.	Project applicant/biologist.	Mitigation plan shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
22.2 The final defined and recorded open space shall include no less than 186 acres of gnatcatcher occupied sage scrub and no less than 126 acres of unoccupied sage scrub habitat (substitution of occupied acreage is acceptable). A total of 9 pairs of California Gnatcatchers shall be preserved within the recorded mitigation area.	Prior to issuance of required permits and environmental approvals. Preserve design criteria to be established at SPA level.	Project applicant/biologist.	Mitigation plan shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
22.3 The project must be redesignated to preserve at least 85% of all onsite coastal sage scrub habitat on the northern parcel in contiguous, unfragmented areas.	Prior to issuance of required permits and environmental approvals. Preserve design criteria to be established at SPA level.	Project applicant/biologist.	Mitigation plan shall be reviewed for effectiveness.	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
22.4 Any loss of coastal sage scrub shall require mitigation onsite through the creation of open space preserves at a mitigation ratio of 4:1, and subject to a long term maintenance and management program.	Prior to issuance of required permits and environmental approvals.	Project applicant/biologist.	Mitigation plan shall be reviewed for effectiveness.	MCC/City Planning Department staff.		
23. The potential open space areas discussed in this MMP shall be retained as biological open space in open space easements on the project site. Management of the biological resources on the site and monitoring programs to the viability of the open space for wildlife shall be incorporated into an Open Space Management Plan.	Concurrent with SPA Plan approvals.	Project applicant/biologist.	The Open Space Management Plan shall be reviewed and revised as needed to retain biological resources. The Plan shall be reviewed by the City of Chula Vista, USFWS, and CDFG.	MCC/City Planning Department staff, USFWS, CDFG.		
<u>Other Mitigation</u>						
24. Graded areas along roadways shall be hydroseeded with native plant species consistent with surrounding natural vegetation. A Revegetation Plan shall be developed.	Development of site plans for individual projects and prior to approval of a grading permit.	Project applicant/biologist.	A revegetation specialist will prepare the Revegetation Plan. Field checks shall occur after landscaping to ensure the Revegetation Plan is properly implemented.	MCC		
25. The use of non-invasive plants in landscaping areas adjacent to open space will be required for all areas outside of actual lot boundaries. Additionally, homeowners will be encouraged to use non-invasive species in their landscaping adjacent to open space.	Development of individual project plans.	Project applicant/homeowners	Field inspection after landscaping will ensure the use of non-invasive plants adjacent to open space.	MCC		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
26. Iceplant (<i>Carpobrotus aequilateralis</i> or <i>C. edulis</i>) shall not be used in lieu of fire-resistant native vegetation due to the slope failures associated with it. Importation of this plant introduces fire ants, which are known to reduce native harvester ant populations through competition and displacement. In addition, fire ants are unpalatable to the San Diego horned lizard and their introduction would reduce horned lizard populations.	Development of site plans for individual projects.	Project developer/biologist.	Review of Revegetation Plan and field inspection after landscaping will ensure against the planting of Iceplant.	City Planning Department staff/MCC.		
27. Grading activities within 100 feet of areas of identified California gnatcatcher pairs, or their associated coastal sage scrub habitat, shall not be conducted during the breeding or nesting season (mid-March through July annually).	Mid-March through July, until full buildout is completed.	Project biologist.	Grading activities shall be monitored during breeding or nesting season.	MCC		
28. Site preparation activities, especially staging area operations and maintenance rows for heavy machinery, shall be restricted to areas not being placed in open space. Carelessness on the part of equipment operators can result in the destruction of areas that have been designated for preservation. Areas adjacent to open space shall be fenced. A debris fence shall be installed prior to excavation in areas where grading is up-slope of sensitive biological habitats. These recommendations should be incorporated into a Construction Monitoring Program.	Site preparation activities for individual projects.	Project applicant/biologist.	An environmental monitor will monitor construction activity during site preparation activities to ensure that the debris fence is installed where grading occurs up-slope of sensitive biological habitats.	CDFG & USFWS will approve Construction Monitoring Program; City Planning Department staff/MCC.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
29. Compliance with state regulations (California AB 3180)	Prior to approval of SPA Plans and site plans for individual projects.	Project applicant/biologist.	Final site plan must be reviewed for compliance with mitigation for biological resources. A field inspection will also be conducted by the project biologist. Each phase of project implementation must be reviewed by a qualified biologist for compliance with the mitigation measures required for that phase. A report must be prepared and filed with the City Planning Department by the project biologist.	MCC/Biologist for the City of Chula Vista and by CDFG.		
Cultural Resources						
i. The grading and brushing of the project and any related offsite utility improvements shall be monitored to ensure that any significant deposits or artifacts which were not identified during the evaluation phase may be analyzed prior to the destruction of the sites.	Earthwork activity during individual project development.	Qualified archaeologist.	A qualified archaeologist will be present during grading activities to monitor grading and brushing of the project site and any related offsite utility improvements. The monitoring archaeologist will be empowered to temporarily halt or divert grading activities to recover cultural resources. These requirements must be noted on the grading plans. The Planning Department will not sign off grading plans without knowledge of required measures. A report on monitoring results will be prepared by the monitoring archaeologist.	MCC/City Planning Department staff/City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>2. Any sites which were masked or buried and were not previously discovered will require evaluation. In the event that any new or previously undetected portions of a site are encountered during the grading of the project or related improvements, the grading shall be halted by the monitoring archaeologist, and the site shall be evaluated for importance. If the site is found to be important, and the impacts will be significant, those impacts must be mitigated to a level of insignificance through either a data recovery program or preservation. Any testing programs and mitigation measures initiated during mitigation monitoring must be cleared through the City of Chula Vista.</p> <p>Prior to the initiation of any future projects stemming from this EIR for Rancho San Miguel, the testing programs which were either abbreviated or suspended during the EIR process, as discussed under Impacts in the Draft EIR must be completed in accordance with the guidelines of the City of Chula Vista (refer to the cultural resources technical report to ascertain which programs must be completed). The completion of the testing is not itself a condition of mitigation, and therefore, the timing on this task is not dictated by CEQA.</p>	<p>During earthwork activity at the project-specific level.</p> <p>Prior to approval of SPA plan.</p>	<p>Project applicant/monitoring archaeologist.</p> <p>Project applicant/qualified archaeologist.</p>	<p>The data recovery program must be reviewed and approved prior to issuance of any discretionary permits.</p> <p>A testing program will be prepared and implemented by a qualified archaeologist retained by the project applicant. The program must be approved by the City Planning Department.</p>	<p>MCC/City Planning Department staff.</p> <p>MCC/City Planning Department staff.</p>		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>3. The eight sites which will be directly impacted must be subjected to a data recovery program to achieve the mitigation of impacts. Those sites which will require data recovery programs due to direct impacts include the following:</p> <p style="margin-left: 40px;">SDI-4529 SDI-12,058 SDI-4530 SDI-12,066 SDI-6957 SDI-12,084H SDI-12,054 SDI-12,085H</p> <p>The data recovery programs shall consist of the following:</p> <ul style="list-style-type: none"> • A detailed collection of information from the surface and sub-surface artifact deposits within the framework of an approved research design. This design shall include individual sections for each site, as the sites do not necessarily include identical or directly associated resources. Educational uses for data recovered shall be considered in the design of the data recovery program. • The research design should address the determination of cultural affiliation and site function(s), feature analysis, tool typology analysis, and regional research issues regarding subsistence patterns, lithic manufacture and maintenance patterns, trade, and intrasite/intersite development. 	<p>Prior to grading on the directly affected sites.</p>	<p>Project applicant/qualified archaeologist.</p>	<p>A data recovery program will be prepared and implemented by a qualified archaeologist retained by the project applicant. The program must be approved by the City Planning Department.</p>	<p>MCC/City Planning Department staff.</p>		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> The historic sites will require documentation of the line of ownership and periods of occupation, as well as data recovery to collect artifacts which define the range of historic activities. Where standing structures are present, an architectural assessment will be needed. The information from each site shall be gathered by conducting a statistical sampling program based on a sample size of two to five percent of the site area. As an alternative, a stratified random sample could be conducted to focus greater attention on elements of the resources which contain greater potential to address the questions presented in the research design. The data collected as part of the implementation of the research design shall be presented in a technical report, with appropriate interpretations and analyses, and submitted for review by the City. 						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>4. The eight sites which will be indirectly impacted and require mitigation are those which include elements that could be removed or damaged by site visitation. The sites which would be indirectly impacted through pressures associated with increased pedestrian or equestrian traffic are:</p> <p style="margin-left: 40px;">SDI-4524 SDI-12,049 SDI-4525 SDI-12,061 SDI-4526 SDI-12,063 SDI-8658 SDI-12,064</p>	During earthwork activity at the project-specific level.	Project applicant/qualified archaeologist.	A qualified archaeologist shall prepare and monitor a Preservation Plan. The location of open space easements to protect the 8 cultural sites previously identified, shall be clearly shown on grading plans. Grading activity near the open space easement will be monitored by the environmental specialist. The granting of easements will be verified at the SPA Plan level. The placement of fencing around the sites identified in the mitigation measures will be confirmed.	MCC/City Planning Department staff/City Engineering Department staff.		

Mitigation measures for these sites shall include:

- A Preservation Plan shall be developed in sufficient detail to ensure that all sensitive aspects of the sites are considered. The completion of the testing program for many of these sites prior to the development of the preservation program will be valuable to the understanding of the sites and the sensitive elements included in each.
- The dedication of open space easements to protect these sites from encroachment associated with the development or related actions in the near future, as well as any actions in the future which would include land alteration.

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> The configuration of the easements shall be designed and dedicated prior to any future development processing following this EIR. The proposed open space areas designated for the project cover an area which encompasses the easements for these sites. Each easement shall include a 100-foot buffer area and must be permanently fenced with 6-foot-high chain link fence. The permanency of the fences shall be assured through the placement of the bases of the fence poles in concrete, and the fencing shall be vinyl coated. This will essentially preclude any development within 100 feet of the sites, while the fence will deter most passers-by from encroaching into the sites. The fencing installation shall be conducted under the supervision of an archaeologist to ensure that the resources are not damaged. The easements shall be granted prior to any further land development projects, such as SPAs, and fences must be placed around all of the sites identified above before any construction can begin anywhere within the project boundaries. 						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>Paleontological Resources</u>						
1. A qualified paleontologist shall be at any pre-grade meetings to consult with grading and excavation contractors. At this time the units (mudstone and gristone) of the Sweetwater formation should be located for use by the paleontologist.	During earthwork activity at the project-specific level and prior to issuance of grading permits.	Project applicant.	The project applicant shall present a letter to the City of Chula Vista indicating that a qualified paleontologist has been retained to carry out an appropriate mitigation program.	MCC/City Planning Department staff.		
2. A paleontological monitor shall be onsite at the times defined below.	During earthwork activity at the project-specific level.	Project applicant/qualified paleontologist.	A qualified paleontologist shall be at any pre-grade meetings to consult with grading and excavation contractors.	MCC		
<ul style="list-style-type: none"> At all times during the original cutting of previously undisturbed sediments of highly sensitive formations (i.e., Otay and Sweetwater-mudstone portion only) to inspect cuts for contained fossils. At least half-time during the original cutting of previously undisturbed sediments of moderately sensitive formations (i.e., debris flow deposits and Sweetwater-gristone portion only) to inspect cuts for contained fossils. At least quarter-time during the original cutting of previously undisturbed sediments of low sensitivity formations (i.e., Santiago Peak volcanics-metasedimentary portion only) to inspect cuts for contained fossils. A paleontological monitor shall periodically inspect original cuts in deposits with an unknown resource sensitivity (i.e., stream/quaternary deposits). 						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> In the event that fossils are discovered in unknown, low or moderately sensitive formations it may be necessary to increase the per day field monitoring time. Conversely, if fossils are not being found then the monitoring should be reduced. A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics-metavolcanic portion). A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil material. The paleontological monitor shall work under the direction of a qualified paleontologist. 						
<p>3. When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete large mammal skeleton) may require an extended salvage time. In these instances the paleontologist (or monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary, in certain instances, to set up a screening operation at the site.</p>	During earthwork activity at the project-specific level.	Paleontological monitor.	<p>All observations will be recorded on a daily basis by the monitor. A final report of findings, even if negative, shall be filed with the City Planning Department and the San Diego Natural History Museum. The report will be prepared and filed prior to approval of the final map.</p>	MCC/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
4. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted and cataloged.	During earthwork activity at the project-specific level.	Paleontological monitor.	A final summary report shall be completed which outlines the results of the mitigation program. This report shall include discussion of the methods used, stratigraphic section exposed, fossils collected, and significance of recovered fossils.	MCC/City Planning Department staff.		
5. Prepared fossils along with copies of all pertinent field notes, photos, and maps shall then be deposited (with the owners permission) in a scientific institution with paleontological collections such as the San Diego Natural History Museum.	During earthwork activity at the project-specific level.	Paleontological monitor.	A final summary report shall be completed which outlines the results of the mitigation program. This report shall include discussion of the methods used, stratigraphic section exposed, fossils collected, and significance of recovered fossils.	MCC/City Planning Department staff.		
<u>Geology/Soils</u>						
1. The recommendations of the Geocon Incorporated report (1986) must be adhered to and confirmed at later stages of planning.	During review of SPA Plans, subdivision maps, and grading plans at the project-specific level.	Project applicant.	Conformance to requirements and adherence to recommendations/standards/criteria shall be confirmed by the City's review of plans. Subsequent plans shall be subject to approval of the City Engineer.	City Planning and Engineering Department staff.		
2. To mitigate ground acceleration impacts:	Development of project-specific plans.	Project applicant/qualified geologist.	A qualified geologist/environmental specialist shall be responsible for monitoring the implementation of measures to reduce ground acceleration impacts. The geologist/environmental specialist shall be onsite throughout the entire grading phase to ensure proper implementation and to be available to make decisions on issues not previously anticipated.	MCC/City Engineering Department staff/Building and Housing Department.		
• All proposed structures and pertinent facilities shall comply with guidelines of the Uniform Building Code and any applicable state or local construction standards, as well as future geotechnical studies.						
• Appropriate grading and construction measures related to seismic loading shall be used.						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> • Appropriate fill and structural design shall be utilized. 						
<p>3. To mitigate liquefaction impacts:</p> <ul style="list-style-type: none"> • Surficial materials including alluvium, fill, and topsoils shall be excavated to firm natural ground and either replaced with approved fill or recompact, depending on direction from the geotechnical consultant. 	During onsite grading activity at the project-specific level.	Project developer.	Field checks shall be performed to ensure that the mitigation measures have been incorporated.	MCC		
<p>4. To mitigate landsliding impacts:</p> <ul style="list-style-type: none"> • The suitability of debris flow deposits to support structures, and the likelihood of future failures in the head areas of debris flows shall be investigated by a qualified geotechnical consultant when grading plans are available. 	Prior to submittal of tentative maps.	Qualified geotechnical engineer.	The geotechnical studies shall be reviewed for completeness. Field checks shall be performed to ensure that the mitigation measures have been incorporated.	MCC		
<ul style="list-style-type: none"> • Slope stabilization methods shall be utilized as recommended by a qualified geotechnical consultant. 	During construction activity.	Qualified geotechnical engineer.	Field checks shall be performed to ensure that the mitigation measures have been incorporated.	MCC		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> All slope design, cuts and fills, erosion control, surface and subsurface drainage, and foundation and retaining wall design shall conform to the recommendations of the geotechnical consultant. Specifically, this would include the use of maximum 2:1 (horizontal to vertical) ratio cut and fill slopes. Cut and fill slopes in the Sweetwater Formation should not exceed 30 feet in height; those in the Olay Formation may exceed 100 feet for cut slopes, but should not exceed 50 feet for fill slopes. These measures shall be implemented in conformance to the City's requirements for landform grading. 	During construction activity.	Qualified geotechnical engineer.	Field checks shall be performed to ensure that the mitigation measures have been incorporated.	MCC		
<ul style="list-style-type: none"> Settlement monuments shall be established throughout the areas underlain by compressible materials, especially where construction will take place over debris flows. The monuments should be monitored for vertical movements until significant movement has ceased. 	During construction activity.	Qualified geotechnical engineer.	Field checks shall be performed to ensure that the mitigation measures have been incorporated.	MCC		
<p>5. To mitigate expansion impacts:</p> <ul style="list-style-type: none"> Clayey subsoils shall be excavated and, if used in fills, be placed at least 3 feet below the proposed finish pad grade and at least 12 inches below street subgrade. 	During construction activity.	Qualified geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> Foundations for single- or two-story structures located entirely in very low to low expansive natural ground, or entirely in fill soils that do not vary more than 20 feet in depth at any point beneath the structure, should be at least 12 inches in width and extend at least 12 inches below lowest adjacent pad grade. Recommendations for foundations constructed in fill soils having a differential thickness greater than 20 feet should be evaluated separately for each structure. 	During construction activity.	Qualified geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC		
<ul style="list-style-type: none"> Measures recommended by a qualified geotechnical consultant to control expansive soils shall be utilized where complete removal would be impractical. Such measures would include moisture control or addition of chemical stabilizers. 	During construction activity.	Qualified geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC		
<ul style="list-style-type: none"> Structural design shall be incorporated that includes deep footings and reinforced floor slabs. 	Development of project-specific plans.	Project applicant.	Project plans shall be verified for completeness.	City Engineering Department staff.		
<p>6. To mitigate erosion impacts:</p> <ul style="list-style-type: none"> All grading and site preparation shall be performed in accordance with the "Recommended Grading Specifications" contained in Appendix C of the Geotechnical Report (1986) and the City of Chula Vista Grading Ordinance. 	Prior to submittal of tentative maps.	Project developer.	Project plans shall be verified for completeness.	City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> A preconstruction conference shall be held at the site with the owner or developer, contractor, civil engineer, and soil engineer in attendance, to discuss special soil handling and/or grading plans. 	During construction of individual projects.	Qualified geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC		
<ul style="list-style-type: none"> The outer zone of fill slopes equal to at least 15 feet or the height of the slope, whichever is less, shall be composed of well compacted granular material. All fill slopes shall be backrolled at maximum 4-foot fill height intervals during construction and each fill slope should be track-walked upon completion. 	During construction of individual projects.	Qualified geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC		
<ul style="list-style-type: none"> Erosion-controlling and slope stabilization measures shall be utilized both during and after completion of construction activities. These may include methods such as revegetation, detention structures, retaining walls, temporary slopes or buttressing, brow ditches, and work restrictions during inclement weather. 	During construction of individual projects.	Qualified geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC		
<ul style="list-style-type: none"> Material disposal methods, locations and haul routes shall be designated, and coordinated with and approved by appropriate regulatory agencies. 	Prior to construction activity.	Project developer.	Plans showing disposal methods, locations and haul routes shall be verified by the city.	City Engineering Department staff.		
<ul style="list-style-type: none"> Compacted areas (e.g., scarification) shall be treated to facilitate revegetation and reduce erosion potential. 	During construction activity.	Geotechnical engineer/environmental specialist.	Field checks shall be performed to ensure that the mitigation measures are being implemented.	MCC		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> Proposed project design, grading, and construction activities shall conform to all pertinent standards of the County of San Diego General Plan, Grading Ordinance, and all other applicable guidelines. 	Prior to submittal of tentative maps.	Project developer.	Site-specific studies shall be reviewed for completeness. Field checks shall be performed to ensure that the mitigation measures are being implemented.	City Engineering Department/Planning Department staff.		
7. To mitigate compaction and settlement impacts:						
<ul style="list-style-type: none"> Alluvial/colluvial soils shall be entirely removed and recompacted in all areas where structural fill is proposed. It is estimated that approximately 10 feet of removal and recompaction of debris flow deposits will be necessary. Unsuitable topsoils shall also be removed and properly recompacted during grading. 	During construction activity.	Geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> Grading operations shall be observed and all structural fills tested for relative compaction by the geotechnical consultant. 	During construction activity.	Geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC/City Engineering Department staff.		
<ul style="list-style-type: none"> All cut slopes shall be observed during grading by the geotechnical consultant to ensure conformity with anticipated subsurface conditions. 	During construction activity.	Geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC/City Engineering Department staff.		
<ul style="list-style-type: none"> Inspections and testing of all grading materials and procedures shall be conducted as directed by the geotechnical consultant. 	During construction activity.	Geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	MCC/City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> All fill materials used for proposed grading and construction activities shall meet the specifications of the geotechnical consultant in terms of composition, size, distribution, moisture content, compaction, depth, and application methodology. 	During construction activity.	Geotechnical engineer/environmental specialist.	Field checks shall be conducted to ensure that the prescribed mitigation measures are being implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> Cut and fill transition zones associated with overlying structures shall be designed pursuant to direction by the geotechnical consultant. Specifically, cut areas beneath structures should be undercut to a minimum depth of one foot below the deepest utility or three feet total, whichever is greater. 	Prior to submittal of tentative maps and during construction activity.	Project developer.	Site-specific studies shall be reviewed for completeness. Field checks shall be performed to ensure that the mitigation measures are being implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> Site preparation shall begin with removal of all deleterious matter and vegetation. The depth of removal shall be such that material to be used in fills is free of organic matter. Material generated during stripping operations and/or site demolition shall be exported from the site. 	During construction activity.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed measures are implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> The site shall then be brought to final subgrade elevations with structural fill compacted in layers. In general, native soils are suitable for reuse as fill if free from vegetation, debris, and other deleterious matter. Layers of fill shall be no thicker than will allow for adequate bonding and compaction. All fill (including backfill and scarified ground surfaces) shall be compacted to at least 90% of maximum dry density at optimum moisture content 	During construction activity.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed measures are implemented.	City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
or above, as determined in accordance with ASTM Test Procedure D1557-70, Method A or C.						
<ul style="list-style-type: none"> An allowable bearing capacity of 2,000 psf may be used for foundations constructed as recommended above. The allowable bearing capacity is for dead plus live loads and may be increased by one-third for transient loads due to wind or seismic forces. 	During construction activity.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed measures are implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> Concrete slabs located entirely on natural ground or on compacted fill which does not exceed 20 feet in thickness shall have a nominal thickness of 4 inches and be underlain by at least 2 inches of clean sand. Reinforcement should consist of 6 x 6 - 6/6 welded wire mesh throughout. In areas of deeper fills, where fill depths exceed 20 feet, the slab reinforcement shall be designed by the project structural engineer or architect. It is recommended that, as a minimum, No. 3 bars placed 18 inches on center in both directions be utilized. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> Foundation excavations and prepared subgrades shall be wetted as necessary to maintain compaction moisture contents. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> Retaining wall foundations bearing in undisturbed formation soils may be designed for an allowable soil bearing pressure of 3,000 psf at a depth of 12 inches below lowest adjacent finish grades. Foundations placed in properly compacted fill soils may be designed for a soil bearing pressure of 2,000 psf at a depth of 12 inches below lowest adjacent finish grades. Reinforcement of such foundations shall follow the recommendations of the project structural engineer and should be reviewed by the geotechnical engineer for compliance with the intent of recommendations for structures on fill presented above. Where the retaining wall will be restrained from lateral movement at the top, a uniform pressure of 7H psf (where H = height of wall in feet) should be added to the above active soil pressures. The above recommendations assume a drained backfill condition with no surcharge loading. Lateral loads may be resisted by "passive" earth pressure. The passive earth pressure against shallow spread-type footings and/or walls poured near undisturbed natural soils or in contact with properly compacted backfill, may be considered equal to the forces exerted by a fluid of 300 pcf unit weight. A coefficient of friction of 0.4 may be used between the bases of footings and slabs and the soil for computing resistance to sliding. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		
	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
8. To mitigate reactive soils impacts:						
<ul style="list-style-type: none"> Unsuitable base materials shall be overexcavated and replaced with approved and properly compacted structural fill. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> Corrosion-resistant steel and cement shall be utilized in areas where complete removal is impractical. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		
9. To mitigate shallow bedrock impacts:						
<ul style="list-style-type: none"> Standard ripping and excavation techniques shall be utilized for shallow bedrock substraces. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> The use and/or disposal of over-size rock materials shall be in accordance with direction by the geotechnical consultant. Generally, this would entail methods such as offsite disposal, replacement in deeper onsite fills, crushing, or use in landscaping efforts of all rock exceeding whatever is determined by the geotechnical consultant. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		
<ul style="list-style-type: none"> If explosives are necessary for excavation activities, their use shall conform to all appropriate state and local guidelines. These would include measures to safeguard explosives in approved storage facilities, ensure safe operation and handling by trained personnel, and protect sensitive receptors (if any) from potential noise and vibration effects. 	During project construction.	Geotechnical engineer.	Field checks shall be performed to ensure that the prescribed mitigation measures are implemented.	City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
10. To mitigate ground-water impacts:						
<ul style="list-style-type: none"> Where moisture sensitive floor coverings are planned, an impervious membrane vapor barrier shall be utilized and a 2-inch layer of clean sand placed between the base of the slab and the membrane to reduce shrinkage cracking and allow proper curing of the concrete. Crack control and construction joints should be provided for large concrete slabs, in accordance with the recommendations of the project architect. 	During project construction.	Structural engineer/environmental specialist.	Dewatering efforts shall require coordination between the City Engineering Department, environmental specialist and the RWQCB to prepare appropriate measures for disposal of any ground water from any dewatering operations.	City Engineering Department staff.		
<ul style="list-style-type: none"> Disposal of any groundwater from any necessary dewatering operations shall be coordinated with the San Diego Regional Water Quality Control Board (RWQCB) office. 						
<ul style="list-style-type: none"> Surface drainage shall be diverted into control structures to reduce seepage impacts. 						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>A supplemental geotechnical investigation and supplemental geotechnical studies shall be conducted involving such issues as the site-specific placement of structures and subsurface drainage facilities.</p> <p>Potential effects related to seismicity (including liquefaction, ground acceleration, and landsliding), reactive soils, compaction, and construction-related hazards shall also be investigated, and all recommendations shall be incorporated into final project design. The report should further the 1986 preliminary soils and geotechnical investigation, which provides the general measures listed above.</p>	<p>Prior to approval of the project tentative maps and during grading activities.</p>	<p>Qualified geotechnical engineer/project applicant.</p>	<p>Project plans shall be reviewed for accuracy; supplemental geotechnical studies shall be reviewed and approved by the City Engineering Department. A field investigation shall be conducted to verify specification in the supplemental study are being implemented. Monitoring shall also be conducted by the project geologist prior to and during grading activities.</p>	<p>MCC/Engineering Department staff.</p>		
<p>11. Selected roadcuts or large finished slopes in areas of interesting geology (e.g., Highway 125) shall be left unlandscaped if they would not be subject to erosion so they can serve as important educational and scientific reference exposures for future generations.</p>	<p>During development of SPA Plans and project-specific plans.</p>	<p>Project applicant/project geologist.</p>	<p>Areas of interesting geology to be left unlandscaped shall be indicated on tentative maps. A field check will be conducted to ensure preservation of such areas.</p>	<p>MCC/City Planning Department staff.</p>		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
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Hydrology

1. A detailed drainage report and plan will be prepared for the entire Rancho San Miguel GPP project. Conceptually, the project's urban storm runoff system should be designed to convey runoff away from the developed areas.

The design would route runoff from the contributing sub basins in such away as to avoid compounding peak discharges.

The facilities shall be designed in accordance with the criteria contained in the Subdivision Manual or as determined by the city engineer.

The storm water system designs shall ensure that any increase in the flow velocity will not result in channel scour in natural or earthen channels and that the increased volume will not flood existing residences and roadways downstream. This can be accomplished by routing runoff to manmade retention ponds located within major drainage ways and releasing the retained water at a controlled rate to avoid erosion. The project's drainage system must also incorporate sediment control and associated components, to the satisfaction of the City Engineer. Development of the Rancho San Miguel project shall comply with all applicable regulations established by the U.S. Environmental Protection Agency (EPA) as set forth in the National Pollution Discharge Elimination System (NPDES) permit requirements for

Project applicant and qualified hydrologist.

The report/plans will be reviewed and verified for accuracy and must be approved by the City Engineer. Field checks will be performed to ensure measure prescribed in the report/plan are implemented.

City Engineer-ing Department staff.

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
urban runoff and stormwater discharge along with any regulations adopted by the City of Chula Vista thereto. The developer shall be required to obtain an NPDES construction permit from the State Water Resource Control Board and to submit pollutant control and monitoring plans to the RWQCB.						
<u>Water Quality</u>						
1. The project shall be subject to review and approval by the State Department of Health Services (DHS). The project shall implement mitigation measures as set by DHS.	Development of SPA Plans and project-specific plans.	Project applicant/hydrologist.	DHS approval must occur prior to issuance of a grading permit.	City Planning Department staff/City Engineering Department staff.		
2. A diversion ditch plan, or other acceptable plan to handle drainage that might impact the Sweetwater Reservoir shall be prepared. Design of these plans shall also consider providing additional capacity for concurrent or future development.	Development of SPA Plans.	Project applicant/qualified hydrologist.	The diversion ditch plan must be reviewed and approved for accuracy by the City, the Sweetwater Authority, and DHS.	City Planning Department staff/City Engineering Department staff.		
3. An erosion control plan must be prepared in accordance with the City of Chula Vista design standards. The plan shall include 1) placement of sandbags 2) temporary sediment basins and 3) an erosion control maintenance plan. The plan shall apply to construction of all portions of the project, including individual lots in the north portion.	Development of SPA Plans, project-specific plans and prior to issuance of grading permits.	Project applicant/registered civil engineer.	The erosion control plan shall be reviewed by the Sweetwater Authority to ensure protection of the reservoir. A field check shall be conducted to verify that all measures are implemented.	City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
4. The runoff protection system previously discussed will be implemented by the Board of Directors of the Sweetwater Authority (Reynolds 1991). The plan will reflect any requirements of the Authority's Final EIR, when adopted. Portions of the system within the City of Chula Vista shall be consistent with appropriate design standards maintained by the City as well as consistent with the overall design to be implemented by the Authority. The runoff protection system shall be in place and fully operational before construction for Rancho San Miguel within the Sweetwater Reservoir watershed occurs.	Prior to the issuance of grading permits.	Project applicant/and qualified hydrologist.	The runoff protection system will be approved by the Sweetwater Authority. The City of Chula Vista shall review plans for comments.	Sweetwater Authority Board of Directors/City Planning Department staff.		
5. A maintenance district shall be formed and financed by the Sweetwater Authority to insure perpetual maintenance of the runoff protection facilities whether within the City of Chula Vista or in the County (Reynolds 1991).	Development of SPA Plans	Sweetwater Authority/project applicant.	Contact shall be maintained with the Sweetwater Authority to ascertain status of maintenance district formation.	City Planning Department staff/City Engineering Department staff.		
6. A water quality report shall be prepared addressing drainage from the northern and southern portions of the development and from diverted drainage from the runoff protection system in the north, and proposed plans to reduce potential water quality degradation of downstream tributaries. The report must address proposed plans to reduce potential water quality degradation of downstream tributaries.	Development of SPA Plans	Project applicant.	The report shall be reviewed for accuracy. The plan shall be approved prior to the issuance of a grading permit.	City Planning Department staff/City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<u>Transportation/Access</u>						
1. The proposed San Miguel Ranch Road shall be designated as a Four-Lane Major Street between East H Street and SR 125 and a Four-Lane Class I between SR 125 and Bonita Road.	Development of SPA Plans	Project applicant.	Development plans shall be reviewed to verify that roads have been properly designated, prior to the approval of any final maps.	City Engineering Department staff.		
2. The proposed north entry road leading to the northern portion of the site from San Miguel Ranch Road shall be designated as Two-Lane Class III Collector.	Development of SPA Plans and prior to approval of any final maps.	Project applicant.	Development plans shall be reviewed to verify that the road has been properly designated.	City Engineering Department staff.		

Air Quality

1. Since the project, as proposed, was not included in the 1982 SIP or in the assumptions on which the 1991 RAQS is based, its effects can only be partially mitigated. The only action which would effectively eliminate all emissions and thus meet the current SIP would be to keep the proposed Rancho San Miguel project area designated as open space or undeveloped land (No Project Alternative). A reduction in project density would reduce but not eliminate emissions impacts. Partial mitigation measures are included below.

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
2. An Air Quality Improvement Plan shall be prepared to comply with the City's Growth Management Ordinance No. 2448. This plan shall provide an analysis of air pollution impacts which would result from the project and will be required to demonstrate that best available design to reduce vehicle trips, maintain or improve traffic flow, reduce vehicle miles travelled, including implementation of appropriate traffic control measures and other means of reducing emissions from the project (direct or indirect) as well as defining a program to monitor compliance.	Prior to approval of SPA Plan.	Project applicant.	The Plan shall be reviewed by the Resource Conservation Commission and Planning Commission prior to final review and adoption by the City Council.	City Planning Department staff.		
3. Fireplaces or other wood burning appliances and natural gas burning appliances such as water heaters and furnace shall be designed to adhere to the standards set by the County, State, and the EPA.	Development of project-specific plans.	Project applicant.	Fireplaces or other wood burning appliances shall be verified for compliance with County State and EPA standards prior to the issuance of an occupancy permit.	City Building Inspector.		
4. All residential units shall use solar energy with back-up low-NO _x water heaters.	Development and review of project-specific plans.	Project applicant.	Development plans shall be reviewed to verify measures to reduce ROG, NO _x and PM ₁₀ emissions have been incorporated.	City Planning Department staff.		
Low-NO _x commercial-size water heaters shall be installed in all the larger onsite facilities, along with solar panels.						
Residential and larger facility gas-fired furnaces shall be outfitted with heat transfer modules providing a 70 percent reduction in NO _x emissions.						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
Low natural hydrocarbon (NHC) producing plant species (also requiring little water), such as crape myrtle and Chinese elm shall be incorporated into the landscape design.						
5. A ridesharing program shall be implemented within the Rancho San Miguel development. Funding shall be provided by the Rancho San Miguel project developer to subsidize increased bus service in the vicinity of the proposed project. Bicycle paths shall be included along roads as means of alternate transportation.	Development of SPA Plans and project-specific plans and prior to approval of tentative maps.	Project applicant/environmental monitor.	Implementation of the ridesharing program, incorporation of bicycle paths and funding for mass transit shall be verified prior to approval of final maps. Status reports as determined appropriate by the City shall be conducted to review effectiveness of the ridesharing program.	City Planning Department staff.		
6. Heavy-duty construction equipment with modified combustion/fuel injection systems for emissions control shall be utilized during grading and construction.	During construction activity	Environmental monitor.	The environmental monitor will be onsite during site preparation to verify that the mitigation measures prescribed are implemented during construction activity.	MCC		
- Disturbed areas shall be hydroseeded, landscaped, or developed as soon as possible and as directed by the City to reduce dust generation.	During construction activity	Environmental monitor.	The environmental monitor will be onsite during site preparation to verify that the mitigation measures prescribed are implemented during construction activity.	MCC		
- Trucks hauling fill material shall be covered.	During construction activity	Environmental monitor.	The environmental monitor will be onsite during site preparation to verify that the mitigation measures prescribed are implemented during construction activity.	MCC		
- A 20 mile-per-hour speed limit shall be enforced on unpaved surfaces.	During construction activity	Environmental monitor.	The environmental monitor will be onsite during site preparation to verify that the mitigation measures prescribed are implemented during construction activity.	MCC		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>- To control dust raised by grading activities, the graded area shall be watered twice a day, unless the county's current state of limited water supplies still exists at the time of construction. In this case other mitigation measures shall be considered and implemented upon City approval. Such measures may include minimizing grading by designing development to follow natural topography, phasing grading so relatively smaller areas are exposed, and revegetating graded areas as rapidly as possible.</p>	During construction activity	Environmental monitor.	The environmental monitor will be onsite during site preparation to verify that the mitigation measures prescribed are implemented during construction activity.	MCC		
<p>1. The future noise impact on the residences along these roadway segments can be mitigated by the placement of solid walls or a wall/berm combination on the building pads on the top of the slopes adjacent to East H Street, San Miguel Ranch Road, and Route 125. The walls must be of solid masonry construction with a material weight of at least 3.5 pounds per square foot and which would not allow any air spaces along their entire length. Each noise wall or wall/berm combination should be placed on the building pads at the top of the slope between the residences and the adjacent impacting roadway.</p>	Development of project-specific plans.	Project applicant.	Development plans shall be reviewed to verify compliance with the noise measures. The construction of noise attenuation berms shall be verified through a field inspection.	City Engineering Department staff/City Planning Department staff.		

Noise

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>2. The height of the wall or wall/berm combination required to mitigate the future noise levels to below the 65 dBA L_{dn} standard is dependant on many factors including the distance from the pad to the adjacent roadway; the traffic volume and average speed of the traffic; and the relative difference in elevation between the adjacent roadway and the pad. The required wall or wall/berm combination height ranges from 8 to 10 feet for residences adjacent to Route 125 or East H Street; and ranges from 5 to 6 feet for residences adjacent to San Miguel Ranch Road. The Draft EIR shows locations of the noise walls, or wall/berm combination in Figure 3.12.4. It should be noted that City regulations do not permit walls over 6 feet in height. Therefore, only the wall/berm combination would be acceptable in areas where the wall would have to be higher.</p>	Development of SPA Plans and project-specific plans.	Project applicant.	<p>Development plans shall be reviewed to verify compliance with the noise measures. The construction of noise attenuation berms shall be verified through a field inspection.</p> <p>The visual impacts of the wall/berm combination to reduce noise effects will be evaluated at the SPA level, when actual dimensions and design plans for the wall/berms will be available, as related to impacts on San Miguel Ranch Road and East H Street. Impacts on development due to Route 125 will be studied as part of the EIR for whichever is built later in time, the Rancho San Miguel project or the roadway.</p>	City Planning Department staff/City Engineering Department staff.		
<p>3. An additional acoustical analysis may be required if there is any change in roadway alignments and elevations as well as building pad locations and elevations from those considered in the assessment in the Draft EIR and when final building locations are determined.</p>	Development of project-specific plans.	Project applicant.	Changes in roadway alignments and elevations as well as building pad locations and elevations will be reviewed during the tentative map approval process. The City will notify project applicant whether or not an additional acoustical analysis is required due to changes in roadway alignments, elevations and buildings, pad locations, and elevations.	City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
Public Services-Water						
1. A Water Master Plan shall be prepared. This plan shall delineate, at a more detailed level, the recommendations of the Noltie and Associates 1990 Preliminary Water Concept Plan for Rancho San Miguel. The Water Master Plan shall identify the location and sizing of specific facilities and implementation/phasing of the plan.	Prior to approval of any SPA Plan within Rancho San Miguel.	Project applicant.	The Water Master Plan shall be reviewed for accuracy. Field checks shall be conducted at the construction phase to ensure the prescribed mitigation measures are implemented.	Sweetwater Authority		
2. The impacts related to the final placement of the water facilities shall be evaluated at the SPA level, including impacts to biological resources, archaeological resources, and visual quality.	Development of SPA Plans and prior to issuance of any grading permits.	Project applicant/EIR preparer.	SPA Plans shall be reviewed to ensure adequate mitigation measures are provided if impacts to biological, archaeological resources and visual quality are determined to be significant.	City Planning Department staff.		
3. In accordance with Ordinance No. 2448, the project applicant shall prepare a Water Conservation Plan. This plan shall provide an analysis of water usage requirements of the proposed project, as well as a detailed plan of proposed measures for water conservation, use of reclaimed water, and other means of reducing per capita water consumption from the proposed project, as well as defining a program to monitor compliance.	Development of SPA Plan.	Project applicant.	The plan shall be reviewed for completeness by the Resource Conservation Commission and Planning Commission prior to final review and adoption of any SPA Plan by the City Council.	City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<p>4. Reclaimed water shall be used wherever feasible, as planned. The project applicant shall begin negotiations with the Olay Water District to ensure distribution of reclaimed water to the site.</p> <ul style="list-style-type: none"> Water conservation measures for onsite landscaping and roadside maintenance shall include, but not be limited to planting of drought-tolerant vegetation and the use of irrigation systems which minimize runoff and evaporation loss. Installation of low-flush toilets, as planned. Installation of low-flow showers and faucets. Insulation of hot water lines in water recirculating systems (California Energy Commission). 	Development of SPA Plans and project-specific plans.	Project applicant.	The applicant shall prepare a letter of its negotiation results with the City Water District in regards to the availability use of reclaimed water to the site. The letter shall be submitted to the City prior to approval of the SPA Plan.	City Planning Department staff.		
Public Services - Sewer						
<p>5. A Wastewater Master Plan shall be prepared subject to approval by the City Engineer. This plan shall delineate, at a more detailed level, the recommendations of the Nolte and Associates 1990 Preliminary Sewer Concept Plan for Rancho San Miguel. The Wastewater Master Plan shall identify the location and sizing of onsite and offsite sewage facilities, implementation/phasing, and funding. This report shall include a discussion of potential impacts to the Sweetwater Reservoir in the event of a break in</p>	Development of SPA Plans	Project applicant.	The Wastewater Master Plan shall be reviewed by the City Engineer and Sweetwater Authority for accuracy. All tentative maps for Rancho San Miguel must comply with the proposed sewer facilities approved for in the Wastewater Master Plan.	City Planning Department staff/City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
the sewerline or sewage spill in the portion of the project within the Sweetwater drainage basin. The Sweetwater Authority will require that 18 hours of emergency storage and full redundancy be designed into the sewage pump stations. In addition, the authority will require that all gravity sewer mains be upstream of the proposed runoff diversion system.						
The impacts related to the construction of both onsite and offsite sewerage facilities shall be evaluated at the SPA level including impacts to biological resources, archaeological resources, visual quality, and water quality.	Prior to approval of SPA Plans.	Project applicant/EIR preparer.	CEQA review for Rancho San Miguel SPA Plans shall include an impact analysis of biological and archaeological resources, visual quality, and water quality in relation to the construction of sewerage facilities.	MCC/City Planning Department staff/City Engineering Department staff.		
6. An actual sewer flow measurement or a study to accurately estimate existing wastewater flows in the Frisbie Street trunk sewer shall be conducted before project flows can enter the system. Metering of the Frisbie Street trunk sewer shall be performed by a qualified contractor. The study shall incorporate the current understanding among the Otay Water District, City of Chula Vista, Spring Valley Sanitation District, and County of San Diego Department of Public Works regarding claims to available capacity in the trunk sewer. The project applicant shall incorporate any mitigation measures required as a part of agreements reached among these parties.	Development of SPA Plans and prior to approval of project-specific plans.	Project applicant/qualified contractor.	Results of the study shall be reviewed for compliance with agreements reached among the affected parties (OWD, City of Chula Vista, Spring Valley Sanitation District, and County of San Diego Department of Public Works).	City Engineering Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
7. The project shall be subject to payment of wastewater development fees (to fund trunk sewer and other upgrades) or an equivalent proportionate facility financing mechanism necessary to provide service to this project as identified by the City, when adopted.	Development of project-specific plans.	Project applicant.	The applicant must pay fees prior to the issuance of building permits.	Building and Housing Department staff.		
<u>Public Services – Police Protection</u>						
1. The project applicant shall be responsible for fronting the necessary funds to enable the City to purchase the requisite equipment for the new officers and support staff required to serve the project area. If the project applicant is required to finance this equipment, the project applicant shall be entitled to a credit against all or a portion of the Public Facilities Development Impact Fee for Police.	Development of project-specific plans.	Project applicant.	The payment of police fees shall occur prior to issuance of a building permit.	Building and Housing Department staff.		
<u>Public Services – Fire Protection</u>						
1. The project applicant shall submit design plans for the proposed inter-pretive and conference facilities that include access routes, to the City Planning Department for approval. This information shall then be used to evaluate fire protection impacts for these facilities at the SPA level.	Development of SPA Plans.	Project applicant.	SPA Plans shall be reviewed to determine fire protection impacts related to the interpretive and conference centers have been addressed.	Chula Vista Fire Department/City Planning Department staff.		
2. Prior to approval of any SPA Plan within Rancho San Miguel, a brush management plan shall be prepared, and approved by the City Planning Department.	Development of SPA Plan.	Project applicant.	During the submittal of the SPA Plan application, the brush management plan will be reviewed for accuracy. Field checks at the project-specific level will be conducted to ensure that the measures prescribed in the brush management plan are implemented.	Chula Vista Fire Department/City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
3. The impacts related to the brush management plan shall be evaluated at the SPA level, including impacts to biological resources, archaeological resources, open space, and fire protection.	Development of SPA Plan.	Project applicant/EIR preparer.	The City will review future EIR documents prepared for Rancho San Miguel SPA Plans to verify that impacts related to the brush management plan are addressed.	Chula Vista Fire Department/ City Planning Department staff.		
4. The project applicant shall provide a second access road to the northern portion if the new fire station is located in East Lake I. The Chula Vista Fire Department strongly recommends that the second access road be provided under any of the scenarios given the constraints to fire protection that exist in the northern portion.	Development of project-specific plans.	Project applicant.	The tentative map shall show the location of a second access road if the new fire station is located in East Lake I. This shall occur prior to the issuance of a building permit.	City Planning Department staff.		
5. Fire sprinklers shall be installed in all buildings and residences in the northern portion of the site.	Development of project-specific plans.	Project applicant.	Development plans shall be reviewed by Chula Vista Fire Prevention Bureau to ensure that fire sprinklers, a control system for the gated communities, and a brush rig are provided by the project applicant. This inspection and review shall occur prior to issuance of a building permit.	Chula Vista Fire Department/ City Planning Department staff.		
6. A control system shall be installed that utilizes a special light on the fire truck to open gates for the gated communities electronically.	Development of project-specific plans.	Project applicant.	Specifications on the tentative map shall be included indicating that a control system for the gated communities has been installed. Field checks shall be conducted to test the control system.	Fire Prevention Bureau/City Planning Department.		
7. The project applicant shall be required to provide a brush rig for the Chula Vista fire department, in accordance with the Public Facilities DIF - Fire Suppression System. The brush rig should be on-hand prior to any building permit being	Development of project-specific plans.	Project applicant.	The applicant must provide written proof to the City that a brush rig has been provided to the Chula Vista Fire Department.	Chula Vista Fire Department/ City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
issued by the City for the northern portion of the project. For providing the brush rig, the developer shall be entitled to a credit against all or a portion of their share of the Public Facilities Development Impact Fee related to the fire suppression system and/or a repayment from future DIF fees collected by the City.						
<u>Public Services – Emergency Medical Service Protection</u>						
1. Provide a second access road to the northern portion that enables emergency medical technicians to reach the required number of units within 10 minutes.	Development of project-specific plans.	Project applicant.	The applicant shall indicate the location of a second access road to the northern portion of the site in its design plans. The plans shall be reviewed and approved prior to the issuance of a building permit.	Chula Vista Fire Department/ City Planning Department staff.		
<u>Public Services – Elementary and High Schools</u>						
1. As required by state law, the developer must pay school fees of \$1.56 per square foot of habitable space for residential development and \$0.26 per square foot of commercial development prior to issuance of building permits.	Development of project-specific plans.	Project applicant.	School impact fees will be paid prior to the issuance of a building permit.	City Planning Department staff.		
2. The project applicant shall provide documentation to the City from Chula Vista City School District (CVCSD) that the proposed elementary school site location is acceptable to the district. Funding for the school shall be in compliance with CVCSD procedures and will most likely involve the Mello-Roos Community Facilities District financing method.	Prior to approval of SPA Plans.	Project applicant.	The project applicant shall provide documentation to the City from the Chula Vista City School District that the proposed elementary school location is acceptable to the District.	City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
3. The project proponent shall provide documentation to the City confirming satisfaction of Sweetwater Union High School District (SUHSD) facility funding requirements to offset student generation impacts. Funding would be satisfied through the Mello Roos Community Facilities District financing method or other means acceptable to SUHSD.	Prior to approval of SPA Plans.	Project applicant.	Written notification to the City is required from the District, indicating the project applicant has satisfied its facility funding requirements.	City Planning Department staff.		
4. The project proponent shall obtain written verification from CVCSD and SUHSD that adequate school facilities and associated financing will be provided for students generated from the project.	Prior to issuance of any building permits for Rancho San Miguel.	Project applicant.	The applicant shall provide the City Planning Department documentation that it has received written verification from CVCSD and SUHSD that adequate school facilities and related financing will be provided for students generated from the project.	City Planning Department staff.		
<u>Parks, Recreation, and Open Space</u> 1. The trail system layout and site specific designs shall be prepared in coordination with the City's Parks and Recreation Department and the Environmental Coordinator. The location of trails within power transmission easements is discouraged by the City's Parks and Recreation department. This issue will be further analyzed at the SPA level at which time the potential impacts will be reevaluated.	Prior to approval of any SPA Plan and project-specific plans within Rancho San Miguel.	Project applicant.	The trail layout and site specific designs shall be reviewed for compliance with the Park and Recreation Department.	City Planning Department staff.		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
2. The trail system shall be managed and policed in a manner that will be consistent with the objective of protecting the habitat and associated plant and animal species from harm.	Development of SPA Plans.	Project applicant/ project biologist.	An agreement must be signed by the project applicant and City of Chula Vista which regulates the maintenance/inspection of the proposed trail system when located along areas containing biological resources. Upon consultation with the project biologist a maintenance schedule shall be established.	City Planning Department staff.		
3. A list of rules regarding proper trail use shall be posted at the interpretive center and also at strategic locations along the trail system. The rules would include the following:	Development of project-specific plans.	Project applicant.	Upon development of the trails, a field inspection by the environmental monitor will be required to verify that signage regarding proper trail use has been installed at the interpretive center and along strategic locations of the trail system.	City Planning Department staff.		
<ul style="list-style-type: none"> • Dog-owners shall not be allowed to bring their pets onto any trails within the trail system that occur in open space areas, on or off leash. • Use of the open space area shall be limited to designated trails. • No collecting or molestation of natural resources shall be allowed (e.g., horned lizards, cactus, flowers). • Open fires, smoking, and weapons shall not be allowed in the open space areas and trail system. 						

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
<ul style="list-style-type: none"> Mountain bikes shall also be prohibited, due to the extreme sensitivity and regional value of the biological resources in the areas traversed by the trails, and because mountain biking often generates off-trail impacts. Certain portions of the trail system that traverse sensitive habitats shall be subject to periodic closure to help protect wildlife and allow recovery of the habitat. 	<p>Throughout life of the project.</p>	<p>Project biologist/environmental specialist.</p>	<p>The City, in consultation with the project biologist, shall establish time periods and location of those trails subject to closure. These specifications shall be part of the maintenance program. The project biologist/environmental specialist shall conduct inspections of the trails and report their findings to the City Planning Department. The maintenance program shall be subject to revisions based on these periodic inspections.</p>	<p>MCC/City Parks Department staff.</p>		
<p>4. The portion of the trail system that crosses the most eastern area of the SDG&E property shall be rerouted as far east as is feasible (possibly utilizing an existing jeep trail) to avoid a golden eagle perching site located in the area (see Plate 3 in the Draft EIR).</p>	<p>Development of SPA Plans and project-specific plans.</p>	<p>Project applicant.</p>	<p>The revised site plan which identifies the new trail layout will be reviewed and approved by the City Park and Recreation Department and the Planning Department. This shall occur prior to the issuance of a grading permit.</p>	<p>MCC</p>		

**RANCHO SAN MIGUEL GDP
MITIGATION MONITORING PROGRAM (Continued)**

Mitigation Measure	Time Frame	Responsible for Task	Monitoring Effort	Responsible for Verification	Date of Completion	Date of Verification
5. Areas of trails access shall be periodically reviewed to ascertain damage from overuse. If it is determined that an area is being degraded the associated trails shall be closed periodically to allow recovery from use.	Throughout life of the project.	Project biologist/environmental specialist.	The City, in consultation with the project biologist, shall establish time periods and locations of those trails subject to closure. These specifications shall be part of the maintenance program. The project biologist/environmental specialist shall conduct inspections of the trails and report their findings to the City Planning Department. The maintenance program shall be subject to revisions based on these periodic inspections.	MCC/City Parks Department staff/City Planning Department staff.		
6. Portions of the proposed trail system traverse power transmission easements. This has limited acceptance to the City's Parks and Recreation Department; the trail system should be located outside of power transmission line easements, to the extent feasible, and in no event will any active uses be allowed within the transmission line easements. The issue will be further analyzed at the SPA Plan level.	Development of SPA Plans.	Project applicant.	The revised site plan will be reviewed for completeness and to verify that the new trail network minimizes the length of trail within of the SDG&E transmission easements.	City Planning Department staff/Parks Department staff.		
7. All trails shall be constructed to prevent channeling of urban runoff into the surrounding open space and Sweetwater Reservoir to the extent possible.	Development of project-specific plans.	Project applicant.	Development plans shall be reviewed to determine that trails are designed to prevent channeling of urban runoff. Field inspections shall be performed after periods of rainfall to determine effects of the trails into surrounding open space and the Sweetwater Reservoir.	MCC		

Table 1
PRESERVATION OF DIEGAN COASTAL SAGE SCRUB

Impacted Habitat	Ratio	Replacement Area	South O.S.	North O.S.
93 acres (occupied)	2:1	186 ac (occupied)	33 ac.	153 ac.
63 acres (unoccup)	2:1	126 ac (unoccup)	113 ac.	13 ac.
156 acres (total)	2:1	312 ac (total)	146 ac.	166 ac.